

THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE AND HEALTH SCIENCES

Medicine + Health

FALL 2015



A PERFORMANCE *for a* LIFETIME

J. Keith Melancon, M.D.,
Helps Put Kidney Health and
Transplantation on Center
Stage in Washington, D.C.

A NOTE FROM ROSS HALL

BUILDING A STRONG FOUNDATION



In the pages of this edition of *Medicine + Health*, you will recognize that much is happening at the GW School of Medicine and Health Sciences (SMHS). Since the beginning of the year, when we published the new strategic plan for SMHS, we have established the impetus for momentum and growth in key strategic areas. The first goal of our strategic plan focuses on leadership — that is, to promote a culture of excellence through leadership, performance improvement, professionalism, and diversity and inclusion for students, residents, faculty, and staff.

Over the past few months, we have welcomed many new faces to our roster of leaders. Some of these leaders are dedicated to the fight against cancer, such as Eduardo Sotomayor, M.D., who has been tapped to lead the GW Cancer Center, and Ed Seto, Ph.D., who will lead basic science efforts for the center. Cancer research and clinical care will continue to be an important target for growth and will continue to evolve under Dr. Sotomayor's leadership. I encourage you to support our efforts as we build aggressively in this area.

In addition, SMHS has appointed three new chairs. In September, we welcomed nationally recognized Raj Rao, M.D., as the new chair of the Department of Orthopedic Surgery. In the Health Sciences, we selected Margaret Plack, Ed.D., DPT, PT, to lead the innovative and entrepreneurial Department of Clinical Research and Leadership; and Karen Wright, Ph.D., PA-C, to lead the highly regarded Department of Physician Assistant Studies. In the M.D. program, we have continued to build out our leadership team under Richard Simons, M.D., senior associate dean for M.D. programs, by welcoming Katherine Chretien, M.D., as the new assistant dean for student affairs.

You will read about each one of these new leaders in the pages of this magazine. We are very excited to have such a breadth of talent and expertise leading this great institution.

Sincerely,

JEFFREY S. AKMAN, M.D. '81, RESD '85

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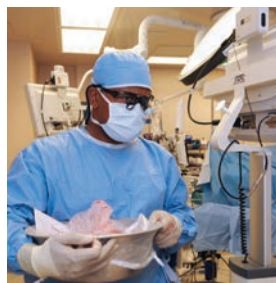
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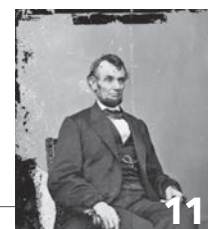
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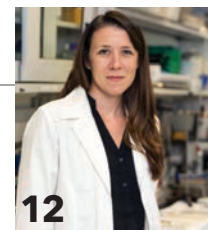
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On the Cover:

J. Keith Melancon, M.D.

Photo by Michael Leong, Biomedical Communications

TO THE EDITOR,

I attended this evening's (June 9) Frontiers in Medicine lecture sponsored by GW's School of Medicine and Health Sciences. At the check-in table, there were issues of the latest *Medicine + Health* magazine. The cover picture of Jehan "Gigi" El-Bayoumi, M.D., immediately caught my eye. I count Dr. El-Bayoumi as a friend. She was my mother's internist from late 2005 to her death in September 2014.

I first met Dr. El-Bayoumi through another friend, Marie Borum, M.D. She was immediately friendly and seemed like a good person to know. In 2005 my mother had a stroke. For a week she stayed in Harper Hospital in Detroit, where she lived. I contacted Gigi from Detroit, explained the situation, and asked her to take my mother as a patient when we returned to Washington, D.C.

Gigi provided my mother with excellent care. She was always compassionate, never rushed (even when busy), and she always explained things to my mother in a way she could understand. Gigi gave my mother the same level of care that she would have wanted for her mother.

There were occasions when Mom needed to be seen by specialists. The doctors that Gigi referred us to were excellent. They all worked together so that Mom got the best care – particularly in late 2011 when she became anemic, began to lose weight, and ultimately was diagnosed with multiple myeloma. From then until the summer of 2014, we saw many GW doctors, and Mom had a great medical team.

Last summer, Gigi saw Mom for the last time. It was clear to both of us that my mother was failing. I had some end-of-life questions, and Gigi answered them forthrightly and with



compassion. One thing she said gave me great strength over the next couple of months. "You will not be alone in your decision-making," she said. That meant a lot to me then, and it means a lot to me now.

—June Jeffries

Support the School of Medicine & Health Sciences

By advancing our four-part mission – to teach, heal, discover, and serve – the School of Medicine and Health Sciences (SMHS) seeks to change lives and better mankind. SMHS offers a challenging and formative educational experience designed to train leaders in a swiftly changing health care landscape.

SMHS is part of the George Washington University's \$1 billion philanthropic campaign to support students, enhance academics, and break new ground through capital projects and research.

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MAKING THE ROUNDS

The Fabric of Health Professionals' Lives



For budding health care professionals, the simplicity of the white coat belies its symbolism: not only does it mark the start of a career, but it also represents the responsibility that accompanies care. "Superman has his cape, Spiderman's got his tights, and I've got my white coat," explained speaker Michael Kahn, a second-year medical student at the GW School of Medicine and Health Sciences (SMHS), at the M.D. White Coat and Honor Code Ceremony on Aug. 8. "To those we serve, it's a symbol of healing, knowledge, and trust. And for those reasons, it carries with it immense power."

Kahn's words tugged at a narrative thread that wove through the speeches at the White Coat and Honor Code Ceremony for the nearly 200 members of the Class of 2019. Major General Nadja West, M.D. '88, joint staff surgeon and ceremony keynote speaker, explained that "I wear the cloth of our nation in my uniform, but the threads of my white coat are embedded in the fibers of this uniform here."

For the physician assistant students, who formally donned their coats at the Convocation and Short White Coat Ceremony in late June, the addition to their wardrobe signified a willingness to carry their patients' burdens. "The most important thing it symbolizes to your patient is that you'll listen to them, and you will join them in carrying whatever it is they brought in to lay before you," said Susan LeLacheur, Dr.P.H. '08, M.P.H. '89, B.S. '80, associate professor of physician assistant studies at SMHS. Keynote speaker Robert McNellis, PA '91, M.P.H. '91, who assured students that the white coat is the first in a lineup of milestones, encouraged the Class of 2017 to "embrace this experience; it's a wonderful opportunity for you."

Rounding out the formal donning of the white coat, the new class of physical therapy (PT) students received their coats at the PT Convocation Ceremony in late October. "The White Coat Ceremony is a symbolic milestone, and it's especially important right now for our first-year students, who have just embarked on their professional journey," said Joyce Maring, DPT, Ph.D., program director for the Doctor of Physical Therapy Program, chair and associate professor in the Department of Physical Therapy and Health Care Sciences. "It promises to be a rewarding journey, but it's one of enormous responsibility, so thankfully we don't make that journey alone." With those words, the second- and third-year PT students, as is tradition, helped the first-year students put on their coats for the first time. ■





Inspiration at Graduation

Inspirational messages from student speakers, keynote speakers, and GW School of Medicine and Health Sciences (SMHS) faculty blended with the sound of bagpipes at the M.D. and Health Sciences graduation ceremonies on May 16 and 17.

The M.D. program Class of 2015 received advice from keynote speaker Vice Admiral Vivek H. Murthy, M.D., M.B.A., the 19th U.S. surgeon general. "It's an honor to be here at

GW because of this institute's long-standing commitment to creating physician citizens," said Murthy. "Your leadership, your vision, your creativity, and your courage will be essential in creating an America that is as good at preventing illness as it is at treating it."

Jeffrey S. Akman, M.D. '81, RESD '85, vice president for health affairs at GW, Walter A. Bloedorn Professor of Administrative Medicine, and dean of SMHS, took a moment to remember Navdeep S. Kang, M.D. '15, who died in August 2014 during his fourth-year of medical school. "He will forever be connected to this university through the Navdeep S. Kang Award for Excellence and Service established by his parents; the Navdeep S. Kang Class of 2015 Scholarship, supported by his classmates; and the Navdeep S. Kang Student Lounge in Ross Hall," Akman said. Justin Michael Palanci, M.D. '15,

was the first to receive the award.

The Health Sciences graduation, meanwhile, recognized the program's culture of academic excellence among its cadre of students. Traditionally, SMHS recognizes the academic achievement and service of its students at the graduation ceremony, but this year stood out because so many students were worthy of recognition. In addition to honoring recent graduates who had served in the military and those earning inductions into honor society Alpha Eta, SMHS faculty recognized three outstanding students: Cassie Robertson, who earned a bachelor's degree in pharmacogenomics and was awarded the Outstanding Undergraduate Award; Angela Vince, M.A., who received the Outstanding Graduate Student Award; and Elizabeth Prevou, PA-C, M.P.H., who also accepted the Outstanding Graduate Student Award. ■

GW's Rodham Institute Hosts Third Annual Summit

Health equity is a pervasive theme in discussions between health care workers and advocates across the country and around the globe, but it is also a matter of critical importance here in Washington, D.C.; despite its position as the nation's capital, the city is home to some of the country's most medically underserved neighborhoods. The on-going dialogue on health equity continued during the third annual Rodham Institute Summit, at THEARC in southeast Washington, D.C. Oct. 2.

The Rodham Institute, housed at GW's School of Medicine and Health Sciences (SMHS) and supported by the GW Medical Faculty Associates, was founded in 2013 in honor of the late Dorothy Rodham and seeks to apply the transformative power of education to achieve health equity in Washington, D.C. This year's summit, themed "Celebrating Great Work in Our

Community: Health Equity Success Stories," included panels on front-line health care and mental health, a poster presentation, and a panel on childhood obesity featuring Chelsea Clinton, vice chair of the Clinton Foundation.

"I'm just so grateful that the work that the Rodham Institute and GW are doing now is in the same line that everyone should be able to determine their own paths, and that so often things like childhood obesity really are questions of social justice and equity," Clinton said.

The day-long event also included a speech by former Senator Chris Dodd, a workshop by Deborah Johnson, and the 2015 Academic Community Collaborative Award ceremony, during which Jehan "Gigi" El-Bayoumi, M.D.,



RESID '88, founding director of the institute and professor of medicine at SMHS, awarded three grants totaling \$35,000 to collaborative projects.

"This summit was not only about celebrating the great work that's being done every day by silent heroes in our community that lifts people so that they can be healthier and able to lead happier lives," said El-Bayoumi. "It's also about sharing and exchanging experiences and maximizing the collective work being done to improve our city's health." ■

There When the Earth Moves

When a 7.4-magnitude earthquake struck Nepal in late April, the Fairfax County Urban Search and Rescue team had just begun its annual three-day exercise; after news of the devastation spread, the team grabbed its equipment – luckily already prepared – and jumped on an airplane.

As soon as the 57 volunteers, including Bruno Petinaux, M.D., RESD '02, associate professor of emergency medicine at the GW School of Medicine and Health Sciences (SMHS), and medical director Anthony Macintyre, M.D., RESD '96, professor of emergency medicine at SMHS, and six dogs landed, they got to work. While structural engineers and specially trained squads assessed the feasibility of rescue attempts, Petinaux and Macintyre worked to sustain the lives of those entombed.

"Some of these extrications can take many hours, so, initiating the care as soon as we can, is vital," Macintyre said.

The physicians, who must grapple with access to their patients and a ticking clock of survivability, evaluate the injuries, which span the spectrum between minor cuts and bruises and major life-threatening trauma, such as "crush syndrome."

"Any time you take a large amount of muscle mass and put pressure on it for a sustained period, you begin to kill that muscle mass," Macintyre said. "Then when you remove that pressure, it can release toxins into the bloodstream that can cause you to get sick very quickly."

The rescue team, known as USA-1 on its international deployment, achieved several successful rescues, including that of 15-year-old Pembe Tamang, who had been trapped under a hotel parking garage. His emergence from the rubble was a triumph for the teams involved. Petinaux and Macintyre, however, sum up their efforts simply. "[We're] just one piece of the puzzle," Petinaux said. ■

GW SMHS Opens Dermatology Residency

The GW School of Medicine and Health Sciences (SMHS) has reopened its residency doors for a new specialty: dermatology. The program, which began in July 2015, enrolls two residents each year who will master the medical, surgical, and histopathological components of dermatology while working with a multicultural and socially diverse patient population in Washington, D.C.

"GW and Washington, D.C. create an ideal environment for residents to develop the skills necessary to thrive in any medical setting," said Adam Friedman, M.D., associate professor of dermatology, dermatology residency program director, and director of translational research in the Department of Dermatology at SMHS. "It's my goal to help develop future dermatologists through our rigorous and supportive teaching environment and innovative research initiatives, and by example of excellence in patient care."

The curriculum includes comprehensive instruction and exposure in medical dermatology, dermatologic surgery, pediatric dermatology, dermatopathology, consultative inpatient dermatology, and several subspecialty areas. Residents will rotate through ambulatory clinics and inpatient consultation services at the GW Medical Faculty Associates and the GW Hospital; the Washington, D.C. VA Medical Center; and Children's National Health System. They also will attend clinical conferences and lectures led by faculty from both SMHS and the surrounding metropolitan medical community. ■





A Path to the Future

The immersion of the GW School of Medicine and Health Sciences (SMHS) DC Health and Academic Preparation Program's (DC HAPP) Cohort 3 into medicine began with a white coat ceremony.

"It's really just symbolic of the fact that we take this opportunity to participate in your future. Your future success and your careers very seriously," said Yolanda Haywood, M.D., RESD '87, B.S. '81, associate dean for diversity, inclusion, and student affairs; associate

professor of emergency medicine; and overseer of DC HAPP. With a hug and smile, she held up white coats as the 13 participants – all students from local high schools and charter schools – slid them on. "I hope you remember this when you go to med school," Haywood added to participant Kevin Peralta.

"This program is perfect for me," Peralta said later. "No one in my family – or anyone I know – is a doctor, so I wanted to surround myself with people who had the same goals and the same ambition that I did."

Peralta, with Cohort 3, learned the ins and outs of a medical education in the month-long program. Highlights included trips to the VA Medical Center, the Gross Lab, the birthing simulation lab, and students were certified in CPR.

"Now that I've done this program, I feel like it really turned on my passion for medicine," Peralta said after learning how to suture in the WISE lab. ■

From Here to Monrovia: Tackling Ebola

For the physicians and physician assistants tending to Ebola patients in Monrovia, Liberia, the line between survival and death was opaque. "You never knew who was going to survive," said Brian Burt, PA-C '03, B.A. '96. "One day you'd go see the patient, and they'd be in complete renal failure with massive, life-threatening electrolyte disturbances, just unable to talk, incontinent. Then the next time you'd come back, they'd be nearly turned around. On the other hand, you'd have somebody that was doing great and motoring along, and the next day you'd come, they'd be dead."

Burt, along with GW School of Medicine and Health Sciences (SMHS) classmate Mark McKinnon, PA-C '03, deployed with the United States Public Health Service Commissioned Corps to Monrovia to provide care to health care workers infected by Ebola. Conditions were hot and humid, and comforts were minimal. Given that needlestick injuries carried a nearly 100 percent infection rate, their Ebola treatment unit had a constant rotation of patients, some from the same family.

Families also made up a number of patients for Colleen Kovach, M.D., clinical instructor of emergency



medicine at SMHS, who treated Ebola-infected Liberians. On one of her first days in the country, she encountered the body of a 7-year-old boy; he'd died hours before, and Kovach had to inform his mother, also stricken with Ebola and in a bed next to her son.

Despite the heartache, the trio of volunteers left with memories of survivors, survivor ceremonies – colorful ribbons tied to a tree, yellow handprints slapped on a blue wall – and a desire to keep helping.

"I love the humanitarian response," said Kovach, who also served along the Turkey-Syria border in summer 2015. "I'm hoping to make a career out of it." ■

New Ph.D. Program Prepares Experts to Translate Science into Solutions

The GW School of Medicine and Health Sciences (SMHS) has launched a Ph.D. program in translational health sciences. The program is designed to prepare health care professionals and leaders to create, translate, disseminate, and integrate knowledge across disciplines. As a result, graduates will be prepared to improve health care practice and research, positively influence health policies, and develop the next generation of health professionals.

"We are pleased that we are able to provide this specialized education to address a major need in our health and education systems," said Joe Bocchino, Ed.D., M.B.A., senior associate dean for health sciences at SMHS. "Right now, new discoveries are made; however, they take too long to reach the public and affect complex health conditions that require a sustained and wide-spread response.

"Our goal," Bocchino continued, "is to create a field of experts and

educators who understand how to expedite the process and integrate science from the bench to the bedside."

The program, which is directed toward licensed health professionals and clinicians, health care administrators, public health professionals, and educators, focuses on three areas: expanding translational research, improving health care practice, and advancing the development of educators who support the medical and health professions. The Ph.D. requires 52 credits beyond a master's degree, as well as completion of two comprehensive examinations, a proposal defense, and a defended dissertation. Students will participate in courses online and spend two weekends per semester at the Virginia Science & Technology Campus.

LINK: smhs.gwu.edu/translational-health-sciences/ ■



When Pope Francis visited Washington, D.C. Sept. 22-24, the nation's capital paused. Even Congress broke from its usual schedule to listen as the pontiff addressed a rare joint session. Being in Washington, D.C. means the GW School of Medicine and Health Sciences (SMHS) community gets a front row seat on the action. Oftentimes, it also means SMHS is called upon to support that action. For the papal visit, a team of SMHS students, residents, and physicians from the Department of Emergency Medicine provided medical support during the Pope's mass at the Catholic University and on the National Mall when he addressed Congress.

The SMHS team covered the events as part of the GW Medical Faculty Associates Medical Reserve Corp, a federally recognized medical response team, under the authority of the U.S. Department of Health and Human Services and the D.C. Department of Health. The team may be called upon to assist at mass gatherings, national security events, public health crises, and regional disasters. ■

Changing Career Course

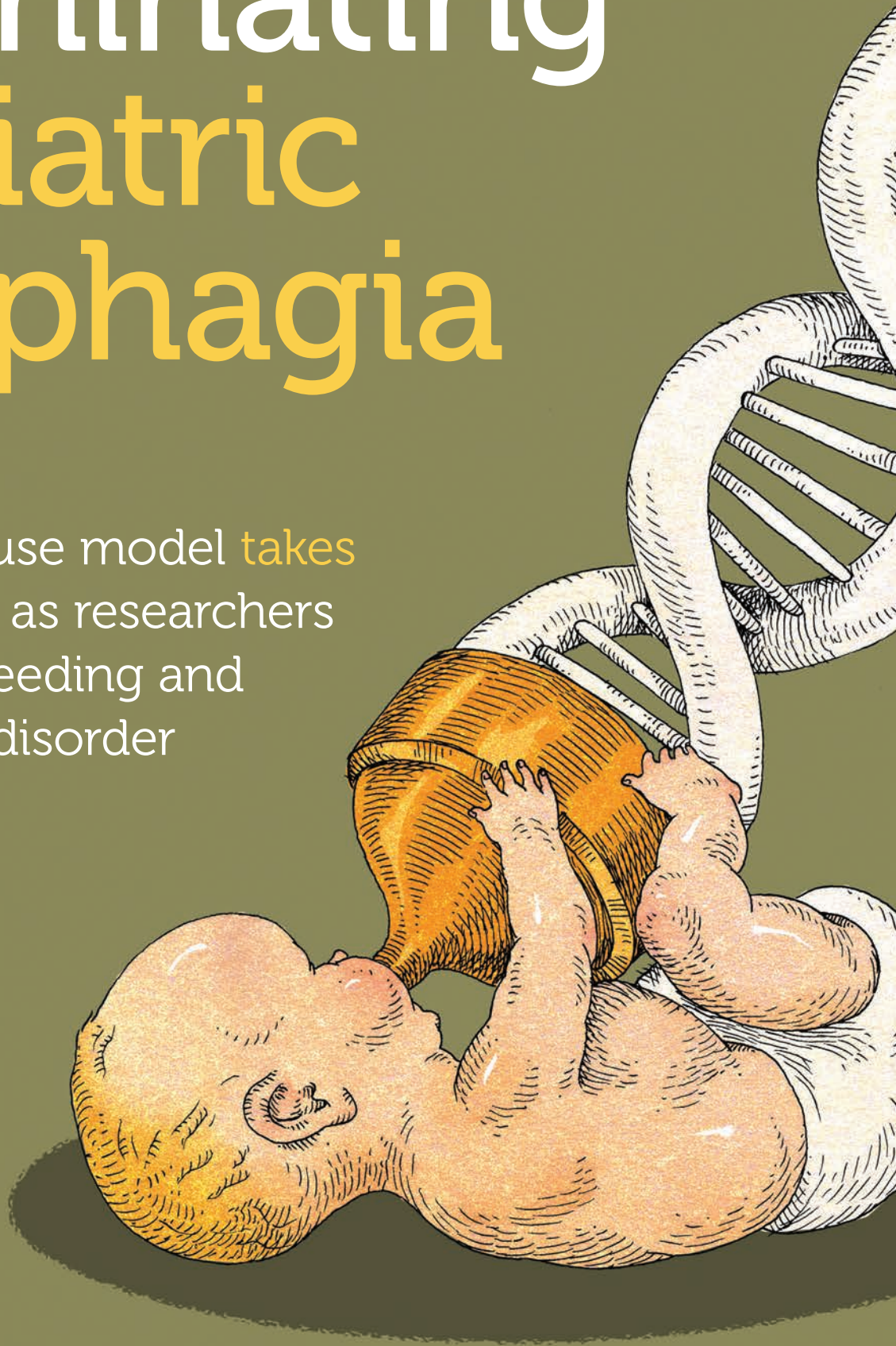
Hopeful medical students without a background in general and organic chemistry, biology, physics, and biochemistry have an opportunity to buttress their educational foundations before applying to medical school. In summer 2015, GW's School of Medicine and Health Sciences (SMHS) began admitting students for its new Post-Baccalaureate Pre-Medicine Program at GW's Virginia Science & Technology Campus (VSTC). The program helps students prepare for the medical admissions process, including the interview and the newly designed MCAT exam.

"This program is designed to provide candidates with the foundational course work, standardized test preparation, and access to real-world experience necessary for a successful matriculation into medical school," said Lisa S. Schwartz, Ed.D., program director of the Post-Baccalaureate Pre-Medicine Program. "This is the next step for someone who wants to change careers and pursue his or her goal of becoming a physician."

The program, part of a continuing expansion of the health sciences programs at SMHS, features faculty mentors and 7,000 square feet of laboratory and support space at VSTC. ■

Illuminating Pediatric Dysphagia

Genetic mouse model **takes center stage** as researchers investigate feeding and swallowing disorder



BY CAROLINE TRENT-GURBUZ



"Can you imagine," says Anthony-Samuel LaMantia, Ph.D., director of the GW Institute for Neuroscience and professor of pharmacology and physiology at the GW School of Medicine and Health Sciences (SMHS), "you're an infant, and one of the key behaviors you have to learn is to ingest food. Someone comes at you with food, and it hurts! It makes you hurt." That pain, a product of pediatric dysphagia, is at the heart of what LaMantia and his team — a veritable A-list troupe of basic science investigators — are working to solve. With a five-year, three-pronged plan and a \$6.2 million program project grant (PPG) from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, PPG director LaMantia is determined to tackle the problem where it begins: in the brain. That's where our story starts.

Act One: The Basics

Pediatric dysphagia, a swallowing and feeding disorder, presents as a mostly mechanical problem; infants and children are unable to chew and swallow and may aspirate or choke on what they try to consume. Complications include ear and sinus infections and dribbles of liquid that settle in the lungs. There's also some suggestion that the scent and texture of food may be unpleasant or aversive, a result of disrupted sensory and olfactory modalities.

Today, dysphagia is treated symptomatically. There is no cure, and researchers understand little about a disorder that ranges from mild to severe. What researchers do know is that it can appear in as many as one in four children, and that up to 80 percent of those with neurodevelopmental disorders, such as autism, have dysphagia. "This is a real-life disease," LaMantia says.

Dysphagia is also a tricky disease. As LaMantia points out, delving deeper into the "whys" and "hows" of a disorder that appears in babies has limitations; researchers and physicians would prefer using minimally invasive techniques with infants. The ideal solution, therefore, is an animal model.

Act Two: The Mouse Model

LaMantia has dedicated the past 15 years to DiGeorge Syndrome, or 22q11.2 Deletion Syndrome, which occurs when a small part of chromosome 22's long arm is missing. The effects are far-reaching; patients suffer from a medley of complications: heart defects, cleft palates, autism or intellectual disabilities, and pediatric dysphagia. LaMantia's research on DiGeorge Syndrome — and the genetic mouse model he and his team use — unlocked the link between the deletion and the resulting dysphagia.

"It is remarkable how good a model this is," LaMantia says. "The insight that we were initially able to get supported our basic hypothesis."

That hypothesis, based on past research for eye movement disorders, was that dysphagia emerges when fundamental mechanisms in early brain development are disrupted, causing defects in the neurons that become part of the cranial nerve system. As a result, craniofacial formation and associated swallowing and feeding apparatuses are negatively affected. The discovery, outlined in a 2013 study published in *Disease Models & Mechanisms*, revealed that dysphagia develops embryonically, not after a baby is born. With that in mind, the researchers at GW and clinical partner institution Children's National Health System (Children's National) decided to use the mouse model as a platform for further understanding dysphagia.

Act Three: The Team

To best tackle the causes of dysphagia, LaMantia and PPG associate director Sally Moody, Ph.D., professor of anatomy and regenerative biology at SMHS, assembled a cast of experts in mouse genetics, bioinformatics, maternal nutrition, and neuronal functioning.

"The project was put together to try to attack the problem, or at least analyze the problem, from a multidisciplinary perspective," Moody explains. "We all have very different backgrounds and training, and we put together three big projects that are combining all of those aspects. It's the combination of expertise that we think will allow us to make progress."

Act Four: The Project

The investigation is divided into three parts: the origin of dysphagia, the pathology, and a possible path to prevention, all of which researchers will pursue simultaneously while informing one another of their progress.

Part one, headed by David Mendelowitz, Ph.D., vice chair and professor of pharmacology and physiology at SMHS, with Norman Lee, Ph.D., professor of pharmacology and physiology at SMHS; Thomas Maynard, Ph.D., associate research professor of pharmacology and physiology at SMHS; and Anastas Popratiloff, M.D., Ph.D., adjunct professor of anatomy and regenerative biology at SMHS. The team is focusing on dysphagia in newborns. More specifically, the researchers will assess any abnormalities in the neuroanatomical connections that control the muscles an animal uses to feed and swallow. "Are the neurons that have to control muscular contraction the right size?" LaMantia asks. "Do they have the right synaptic inputs?"

One experimental strategy that has shed light — literally — on certain aspects of dysphagia is a technique similar to a barium swallow. Using a contrast agent, in this case a fluorescent dye, mixed with formula, Maynard has been able to track

the path of the liquid as it passes through both the normal and the genetically altered mice. In normal mice, some drops of dye collect in the crevices of the tongue, but most passes through the mouth en route to the stomach.

"In contrast, in a couple of mutants that we've tried, we see a whole bunch left in the mouth," Maynard says. "If you look in the sinuses, there is food that they tried to swallow but that was kicked back up into the nasal regions."

In another indication of the mutant animals' difficulty in eating and swallowing, the researchers have found that the mutants also grow at a slower pace than their non-mutant siblings.

In part two, LaMantia, Moody, and Lee are zeroing in on the development of the embryonic hindbrain. In early developmental stages, a population of cells migrates from the hindbrain into the periphery to make craniofacial structures. For infants with dysphagia, somewhere along the way the mechanisms controlling how these cells develop into peripheral neurons and the facial skeleton go awry. "The brain has to have a code, and the periphery has to have a code, and they have to match," LaMantia says. When they don't match, messaging between the two becomes garbled. A second important goal of the part-two team is to identify the genes that are altered in the hindbrain that lead to the motor and sensory mismatches.

The third part of the project is what LaMantia and Moody term the most adventurous. Retinoic acid, a derivative of Vitamin A, is one of the signaling factors strongly affected by the 22q11.2 deletion. Hypothesizing that maternal nutrition — in particular retinoic acid as it plays a role in the development of the hindbrain — could influence the severity of dysphagia, Irene Zohn, Ph.D., associate professor of pediatrics at SMHS and a researcher at Children's National, along with Maynard, is experimenting with maternal diets.

"We've shown that with this particular mouse model, Vitamin A can modify phenotypes," Zohn says. "So the goal of my project is to determine how changing the Vitamin A — having either borderline deficiency or too much Vitamin A — might alter the severity of feeding phenotypes."

Act Five: The Goals

Although the team is still a few years away from the project's conclusion, the researchers' goals could have long-lasting consequences for dysphagia sufferers, some of whom cope with the disease well into adulthood.

"We're hoping that there might be ways of regulating [dysphagia] either prenatally via diet or postnatally through pharmacological therapies to help the kids overcome this behavioral deficit that really impacts their lives," Moody says. "Also, we think if we can figure out the problem with this syndrome, the information may be applicable to other syndromes where children also show dysphagia." ■



Caring for a President



REMEMBERING GW'S EFFORTS TO SAVE ABRAHAM LINCOLN

BY THOMAS KOHOUT

This year marked the 150th anniversary of one of the most monumental events in Washington, D.C. history, and indeed U.S. history: the assassination of Abraham Lincoln. The tragic event cemented the George Washington University School of Medicine and Health Sciences (SMHS), or National Medical College of Columbian University, as it was known at the time, in its unofficial role as the health care provider to the world's leaders.

The following is a timeline of events based on National Archive records and accounts from Elmer Louis Kayser's 1973 history of the George Washington University's academic medical programs, titled "A Medical Center: The Institutional Development of Medical Education in George Washington University."

On April 14, 1865, just five days removed from the unconditional surrender of Confederate forces and six weeks after his second inauguration, President Abraham Lincoln and first lady Mary Todd Lincoln join others in a private box at Ford's Theatre to watch a performance of the comedy "Our American Cousin." Also in attendance is Maryland native and Confederate-sympathizer John Wilkes Booth.

At 10:13 p.m., Booth enters the private box and pulls the trigger on a .44 caliber, single-shot derringer pistol aimed at the back of the president's head. During his escape, Booth produces a knife and stabs U.S. Army officer Henry Rathbone, who was attending the play with the Lincolns and his fiancée, Clara Harris, the daughter of New York Senator Ira Harris.

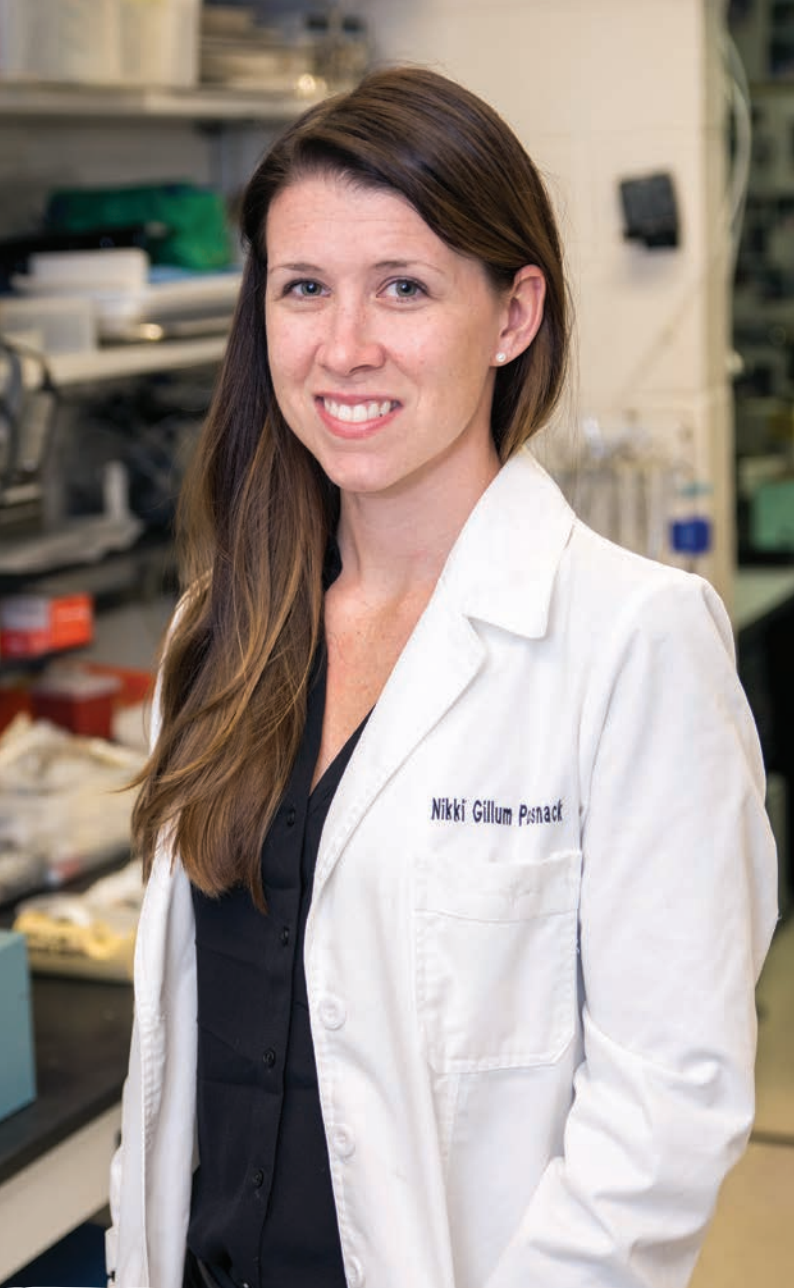
First on the scene to aid the president is 23-year-old Charles Leale, M.D., who has only weeks before completed his medical training. Through physical examination, Leale determines a bullet has penetrated Lincoln's skull just behind his left ear. The president is left paralyzed and barely breathing.

Albert Freeman Africanus King, M.D. 1861, a graduate of the National Medical College of Columbian College, is seated below the president's box in the orchestra section. King, just 24 years old, will go on to become professor and chair of obstetrics and serve as dean of the National Medical College from 1879 to 1894. He climbs to the box above, joining Leale in an effort to revive the president. After a medical examination, the young physicians help carry the president across 10th Street to the home of William Peterson.

Lincoln's personal physician, Robert King Stone, M.D., a faculty member at National Medical College and former dean of the medical faculty (1853), is summoned to Lincoln's deathbed. Upon arrival, Stone assumes the role of chief attending physician for the mortally wounded president.

John Frederick May, M.D., professor of surgery and anatomy and another former dean of National Medical College, is called to Lincoln's bedside for consultation. Twelve days later, May will be called upon to help identify the body of John Wilkes Booth.

Nine hours after the shooting, at 7:22 a.m. on April 15, Lincoln dies. At his bedside, Secretary of War Edwin Stanton remarks, "Now he belongs to the ages." ■



Pinning Down Plastic

Nikki Posnack hopes to find out the truth about plastic's effect on health

BY ERIC BUTTERMAN

“I just want to say one word to you. Just one word. Plastics. There is a great future in plastics.”

So goes an early scene in the 1967 Mike Nichols classic *The Graduate*. The pitch from a seasoned executive attempting to recruit the young college graduate played by Dustin Hoffman is an ideal symbol for the rapidly changing 1960s. It also alludes to the exponential growth in the use of, and reliance on, the synthetic polymer. Seemingly overnight, the use of plastics exploded in the mid-20th century, and soon a host of polymers could be found in everything from textiles to food packaging and even medical supplies. But plastics' rapid acceptance and widespread use posed a potentially serious problem.

At least that's what Ronald Brown, a toxicologist for the FDA, considered a possibility. In 2008, he asked Narine Sarvazyan, Ph.D., professor of pharmacology and physiology at GW's School of Medicine and Health Sciences (SMHS) to collaborate on a toxicity project. Few at the time could imagine that it would lead to a scientific odyssey that continues to this day. Brown wanted to confirm whether there were potential cardiovascular problems associated with the chemical makeup of certain types of plastics regularly used in medical devices, specifically a chemical called Di-2-ethylhexyl phthalate (DEHP). Sarvazyan and her team then decided that the best approach to start would be to test whether DEHP had any harmful effects on isolated heart cells.

Like the Hoffman character, Nikki Gillum Posnack, Ph.D. '09, then a fourth-year graduate student in Sarvazyan's lab, was dealing with the pressures of the rapidly approaching end to her doctoral training. Tasked with analyzing the cardiac effects of plastics, Posnack was skeptical, thinking it might not be the best use of her remaining time as a student. “We were interested in seeing if some of these plastic components could have adverse heart effects,” recalls Posnack, now an assistant research professor of pharmacology and physiology at SMHS. “There was very little available research on this chemical. So, we treated heart cells with a dose of a DEHP that mimicked a young patient's exposure in the clinical setting. But, we did not observe any immediate effects of DEHP in our experiment.”

Posnack could have stopped with the initial tests and perhaps considered the matter closed. But a decision to put the treated heart cells into an incubator changed everything.

The research team was startled to see that over time, arrhythmias began forming in the cardiac cell preparations.

“Cells in your heart should be well coupled to allow for fast and uniform electrical conduction,” explains Posnack. “But these heart cells were communicating and beating on their own, independently of one another.”

After the discovery, not surprisingly, further testing was done, and by this time enthusiasm had replaced Posnack’s skepticism.

Posnack is now a first author on six peer-reviewed articles detailing adverse effects of plasticizers on heart physiology. She expanded her initial DEHP studies to also examine the influence of Bisphenol A (BPA), another plastic component, on heart cells and the heart as a whole. “Starting at low doses, we saw slowing of electrical conduction,” she says. “We detected both slowing of conduction velocity across the heart and delayed conduction between the atria and the ventricles.”

Posnack explains that BPA is usually found in polycarbonates — shatterproof plastics, food and beverage containers, and as a liner in aluminum cans. Global production of BPA, according to Merchant Research and Consulting, reached 4.6 million tons in 2013. In other words, people around the world come in contact with BPA on a daily basis.

“There is not a whole lot of information on whether these plastic chemicals are affecting the cardiovascular system,” she says. “We know we’re being exposed to these chemicals on a routine basis ... it’s clearly a public health concern. Public health studies have recently shown associations between exposure to plastic chemicals and adverse cardiac effects, but we do not have a whole lot of basic science research to show if those effects are directly linked or not.”

Leading the Way

What Posnack once considered a dull assignment now accounts for a significant portion of her professional hours. The reluctant graduate student is now an enthusiastic research professor playing a lead role in plastic-related health care studies. And, as the mother of two children under 6, she has found that her efforts to uncover plastic’s effects, particularly related to childhood development, have grown into an obsession. “Look around,” she says. “Plastics and families go hand in hand. As I child, I remember drinking out of small juice glasses, but now it’s hard to find something that is not made of plastic. I’ll admit that we’ve switched to stainless steel bottles for our kids. ... If my husband sees someone microwaving something in plastic, he tells them ‘glass is the way to go.’ But, even with those precautions, children don’t have a lot of wood or natural toys anymore. Everything is plastic. You can’t avoid it.”

Exposure levels for people who are undergoing bypass surgery or receiving blood transfusions are much higher than typical, says Posnack, explaining that the procedures “involve a good amount of plastic tubing or storage bags.”

Now a full year into a K99 grant, she’s also started a collaborative study with Paul Marvar, Ph.D., assistant professor of pharmacology and physiology at SMHS, to explore the in vivo effects. “We’ve started to record electrocardiogram and blood pressure measurements at low dose exposures using radiotelemetry,” she explains. Human studies “have linked higher DEHP and/or BPA exposures with having high blood pressure, decreased heart-rate variability, and an increased risk of heart attack. With this telemetry system, we can look at the direct link between exposure and alterations in heart rate and blood pressure over time.”

Sarvazy, Posnack’s mentor and co-author, considers her protégée’s work to be vitally important and assesses her as just the person to see it through. “Imagine your loved one goes to the hospital, and they have an underlying cardiovascular problem,” she says. “Then these chemicals migrate out of plastic medical devices into their blood, exaggerating what is already a dangerous situation. Dr. Posnack has already shown that high concentrations of BPA and DEHP can negatively affect the hearts of small animals, and she is fully set to understand the effects of clinically relevant concentrations of these compounds.

“Moreover,” adds Sarvazy, “she can now test the effects of these compounds on a person’s own cardiac myocytes, which can be derived from a small blood sample using induced pluripotent stem cells technology.”

But while Posnack pushes on, she keeps in mind the value that plastics have grown to represent in society. It’s why, she says, we have to understand how best to use them — as opposed to eliminating them.

“Plastics are very important, and they save people’s lives every day in hospital settings,” she says. “We’re not trying to rid the world of plastic, but we are trying to get a better understanding of the risk and [figure out] if, in some case, there are alternatives that may be better. People need to remember these chemicals are also found in things other than plastic. BPA can also be found in aluminum cans, and it can be used in thermally printed cash register receipt paper. Yes, DEHP is a plasticizer, but phthalate chemicals can also be used in many personal care products with fragrances, such as shampoo. Many people don’t understand how far this reaches.”

Despite the possible outcomes, Posnack knows that on her way to the truth, part of her job is not to scare people unnecessarily. “For those in science, many want to know what level of concern there should be, but it’s hard to walk an intermediate line and not be an alarmist,” she says. “But that’s a challenge you have to take on. ... I’m hoping the results I find are helpful — no matter what they ultimately tell us.” ■

Although he speaks in measured tones, Eduardo M. Sotomayor, M.D., director of the new GW Cancer Center (GWCC), exudes optimism and determination as he describes his vision for the institution: “Driving research innovation, personalized cancer care, and cancer policy from the nation’s capital.” He scrolls through a PowerPoint presentation, recently given to the GW Board of Trustees, and points out his regular caveat, “Not related to SCOTUS Judge Sonia Sotomayor.” He laughs before returning to his institutional mission, an inclusive and expansive approach to cancer.

GWCC will act as an umbrella, he explains, encompassing various facets of cancer care, from basic, translational, and clinical research to policy (“It’s my pet project,” he confides) and advancements in treatment. He plans to recruit talent from both inside and outside GW, creating a powerful task force for cancer. His more immediate goals include earning a prestigious National Cancer Institute (NCI) designation. The demands are rigorous, but not unfamiliar for a man who frequently transforms the phrase “I think I want to do this” into reality.

FROM THE BEGINNING

Sotomayor, who readily describes himself as a physician-scientist, started his journey in medicine at age 7, during a trip to the hospital to be treated for an infection; he was fascinated by the health care providers’ compassion. Visits from an uncle, a medical student, cemented his desire to pursue medicine. “At that point, with these two experiences together, I said, ‘I think that I want to be a doctor,’” Sotomayor recalls, a smile spreading across his face at the memory. “My mom said, ‘Are you sure?’ and I said, ‘I want to be a doctor.’”

The ensuing years saw Sotomayor power through secondary and post-secondary school in his native Peru, culminating in graduation from Federico Villarreal Medical School in Lima. He worked for one year in the Peruvian countryside — part of a payback agreement with the government for a tuition-free education — before relocating to Fort Lauderdale, Florida. His initial area of interest was rheumatology.


“I was able to meet Dr. Diana Lopez,” Sotomayor says. “She is an immunologist, but she was not working on autoimmune disorders. She was not working in rheumatology. She was working in cancer. I had a meeting with her and said, ‘OK, I think this is what I want to do.’”

For Diana Lopez, Ph.D., professor of microbiology and immunology and director of the undergraduate program at the University of Miami Miller School of Medicine, Sotomayor was a memorable colleague, making his subsequent rise through medicine no surprise to her. “He impressed me so much,” she says. “He really is amazing. Hardworking, intelligent, dedicated.”



Sotomayor worked with Lopez for three years before he felt the need to return to clinical medicine. “He wanted to do his training as a medical doctor, because that’s what he was,” Lopez explains. “He did it here at Jackson Memorial [Hospital], and then he wanted to go and do more research.”

Sotomayor landed at Johns Hopkins University in 1995, where he joined a group of oncology researchers working under Hyam Levitsky, M.D. “They were passionate, and they truly believed that one day cancer immunology would be an area that would provide effective cancer treatments,” Sotomayor says. “So I said, ‘OK, I think I want to be part of this group.’” The researchers were tackling the role of healing T-cells and their ability to destroy cancer cells. Sotomayor narrowed his focus to lymphoma, specifically analyzing the interaction between T-lymphocytes and cancer cells, and the growth of cancerous tumors. Despite skepticism at the time, he was confident in cancer immunotherapy as a revolutionary approach to treatment.



SOTOMAYOR: PHYSICIAN, SCIENTIST, RESEARCHER, VISIONARY

BY CAROLINE TRENT-GURBUZ

“In 2015, everybody loves cancer immunology,” Sotomayor says. “Everybody’s a believer because in the last five years, we’ve had many successes. Everybody wants to be a cancer immunologist now.” He adds, jokingly: “I’m kind of a pioneer.”

PIONEERING CANCER RESEARCH AND TREATMENTS

As part of his proposed scientific program for GWCC, Sotomayor intends to explore cancer immunology and immunotherapy; his initial plans include expanding ongoing T-cell clinical trials at Children’s National Health System and further developing a cell therapy lab and stem cell transplant program at GW Hospital. He also wants to incorporate the promising fields of cancer epigenetics and microbial oncology, the latter of which pulls in Doug Nixon, Ph.D., Walter G. Ross Professor of Basic Science Research, chair and professor in the Department of Microbiology, Immunology, and Tropical Medicine at the GW School of Medicine and Health Sciences. Nixon is one of the aforementioned internal talents

Sotomayor is tapping to head crucial research.

“I believe in internal recruitment,” Sotomayor says. “The [researchers, scientists, and engineers] are going to be focusing on areas that a few years from now, we can claim that we are the leaders in.”

FINDING A NICHE

Sotomayor’s resolve to earn the NCI designation is, like his decision to emphasize cancer immunology and research, reflective of his past experience. Four years after joining the team at Johns Hopkins, Sotomayor felt the balmy winds of Florida calling him back.

“I met Eduardo when he was finishing his fellowship at Hopkins and recruited him to Moffitt,” explains William S. Dalton, M.D., Ph.D., former president, chief executive officer, and center director of the H. Lee Moffitt Cancer Center and Research Institute at the University of South Florida in Tampa. “It was one of the best hires I’ve ever done.”

At Moffitt, Sotomayor served as the scientific director of the center’s DeBartolo Family Personalized Medicine Institute, and at the national level he joined several committees, including the NCI parent committee A, where he helped review NCI-designated centers. The criteria for earning the designation include having established, collaborative research programs and an institutional commitment to, and capability for, cancer care. GW is poised to be the next center on the list.

“We’re going to find our own niche,” Sotomayor says. “I think by doing that, we’re going to have a very good chance down the road to get an NCI designation.”

THE FUTURE: PERSONALIZED MEDICINE

The final component of Sotomayor’s approach is as revolutionary and forward thinking as cancer immunotherapy: personalized medicine.

“Personalized medicine in my view has two essential components,” Sotomayor explains, pointing to phenotype and genomic data. “You need both.” The key for the components is creating tissue-related and demographics-related databases, where doctors and researchers can determine the makeup of past and current cancer patients; ideally, the information can be used to guide more precise, individualized treatment. “We want to provide state-of-the-art clinical care, we want to do novel clinical trials, and personalized cancer care will be the engine speeding up these efforts,” Sotomayor says. “That’s where the field is moving.”

The people in his life, those who’ve observed his ascent, believe his success — like the success of GWCC — is guaranteed.

“[GW is] very lucky to have him as the new director,” Lopez says. ■



MAKING STRIDES

in Childhood Intellectual Disabilities and Autism

BY ERIC BUTTERMAN

When Maria Chiara Manzini, Ph.D., was a first-year student at the University of Pavia in Italy, she had her choice of careers. Ultimately, she focused on studying the brain and behavior, but she couldn't shake one thought. "I was always struck by how, in many cases, psychiatric disorders are chemical imbalances, but they completely change your personality," says Manzini, assistant professor of pharmacology and physiology at GW's School of Medicine and Health Sciences. "When you have high blood pressure, it's treated with a drug, and you're reset to normal levels. But with psychiatric problems, it overtakes so much of your life. I realized how unfair and how misunderstood it was."

That combination of compassion and curiosity has helped guide Manzini on a nearly decade-long journey to help improve the lives of children with intellectual challenges and autism. An award presented by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, which started as a career-development grant during Manzini's postdoctoral career, grew on her promise as an investigator to become \$740,000 to be applied to her independent research into severe intellectual disability and autism caused by loss of function of the CC2D1A gene.

Manzini's project, titled "Intracellular signaling in the development of human cognitive function," explores the function of the gene and of the mutations that cause disease by both using cell-based systems — analyses of neurons generated from animal models — and studying the behavior in mouse models to better understand the pathogenesis of the disease.

Autism does not fit a simple definition, according to Manzini, who earned her doctorate in neurobiology and behavior from Columbia University. "That's why it's called autism *spectrum* disorder. We now know that it can have

multiple different causes," she says. "We also know it's a developmental disorder and most likely starts in the fetus, but it is often diagnosed when a child is 2 or 3."

She categorizes the intellectual disabilities at the center of her research as severe. "An example would be someone who grows up to be a 30-year-old who functions at about the level of a 3-year-old and is able to say around three words," she says. "They never adapt and continue to have the capacity of a very small child."

"For example, they probably don't know what money is, and they might have issues with expressing themselves," she explains. "With autism, it's also issues in social interaction and repetitive behaviors." One thing they all have in common is that they have no other physical or neurological conditions, and their only difficulties are in brain functions controlling cognition and behavior.

DETECTIVE WORK

Manzini still remembers the excitement of discovering the CC2D1A gene mutation in 2006 at the Boston Children's Hospital lab that led to so much of her work. "We found it in the DNA sequence, but we didn't know anything about what losing that gene did to the brain" she says. "You needed to generate a model to look at the brain to see if it's normal — asking questions like: Does the animal model have a learning deficit or a social deficit? We could find the source of the problem in the genetics, but you can find the gene and still not know what that gene does. It's truly detective work."

She knew early on that she wanted to get beyond identifying the genes, to figure out how the gene regulates multiple signaling mechanisms inside the cells, as well as how it responds to the outside. Only then can Manzini establish ways



to modulate the gene and have a positive effect on the disease. “You see the neuron is not quite able to respond to stimuli from the outside, and we’re trying to figure out from a molecular point of view why there is the misinterpretation,” she explains. “You also want to look into whether there are applicable drugs available or hopefully create ones that will help restore normal responses in the neurons.”

Presently, Manzini is focused on behavioral tests through animal modeling, looking at learning capacity, social interaction, and whether the subject’s behaviors are repetitive. Examples of tests include having a mouse subject in a cage with a sibling and an unknown mouse and looking at how often the subjects choose to interact with each other. “A lot of the time the ones with social deficit won’t even care,” she explains. “If they don’t have a social deficit, they’ll tend to go to the mouse they don’t know because it’s someone new — they are checking out if they’re friend or foe.” Or, to study anxiety, researchers might put the mice in an open box and see how often they’re willing to leave the sides and go into the open space in the center.

“We’re also looking at animals with self-injury and other issues,” she says. “The final overarching goal is to understand the molecular deficits caused by loss of this gene and see if we can cure behavior in the animal model and extend that to other autism research.” The problem, explains Manzini, is that literally hundreds of genes are affected. “We have to try to figure out whether we can group patients based on genes with similar functions, or do more when it comes to understanding how the different genes work together.”

Manzini says her work is still in the early phase, and she is working to understand why these mutations cause these effects on brain function and development. “Specific electric signals when you develop a memory become stronger,” she says. “You

can measure the strength of these electrical signals and see whether the cell is able to increase its strength. But, in our case, in our models, that doesn’t happen. ... Where we’re at now, we have cellular deficits and some other deficits, but what we want to do is to get the molecular deficit. So, we go inside the cell and figure out what is wrong and what is the cause.”

FAMILY MATTERS

Manzini’s passion grew partly out of meeting families affected by autism, believing it was important to get beyond the microscope in this kind of work. “We have families in genetic labs trying to get more information, and we have to try to help them make sense of this genetic disorder,” she says. “It’s also very helpful to see the positive [side] and the love of the parents for these kids — it’s been really inspiring. I recommend that even if you always work with DNA and just see the samples, you want to understand what people are going through. By understanding the community and seeing what effect [a disease] has on the quality of life, you can focus on those aspects of the disease, and it can inform your work.”

One family visit led Manzini and her medical team as far as a mountain peak at the tip of the Arabian Peninsula in Oman. “You go through the desert, climb a dirt road, and they were in a mud building on the top of a mountain,” she recalls. “They were really excited to see us — I believe the two brothers and their wives had seven children who were affected. You could see how driven they were to find out what had happened to their children and how much they wanted to help them.”

But the families go beyond offering inspiration — they’ve provided vital clues. “When we first identified mutations in *CC2D1A*, it was in a family who had severe cognitive deficits,” she says. “Then another family with the same mutation had intellectual disability, but also had autism. A third [who] had a different mutation also had both intellectual disability and autism.” Confusing, yes, but also challenging, says Manzini.

As Manzini trudges on, she is strongly encouraged by improvements in the positivity of the medical community. “In the past five to 10 years, we have gained a better understanding of what causes these disorders,” she says. “And right now there is a lot of focus on trying to develop therapies. It’s hard to believe that just five years ago there weren’t really any clinical trials! You want to know the difference? I was at a conference recently, and it’s so great to see clinicians, scientists, and pharmaceutical companies talking about a variety of disorders and assessing improvements in learning. Advocacy groups should be very proud of the role they’ve taken.”

And it’s extra incentive for her to also see the way society has changed its view. “Young children are receiving early diagnosis and extra help at home and in school,” she says. “Therapists are playing a very important role. We can make their lives better in many ways ... and I think it will only improve.” ■



A close-up photograph of a surgeon's gloved hand performing a procedure. The hand is holding a pair of surgical forceps, which are positioned over a small incision on a patient's arm. The background is a blurred blue surgical drape. The title text is overlaid on the image.

A PERFORMANCE *for a* LIFETIME

When people reach the pinnacle of their profession, we sometimes call them rock stars. They are showered with adulation, and we say they've turned their talents into performance art. For surgeons, tasked with bridging science and art, intellect and dexterity, the allusion is more fact than flourish.

BY STEVE GOLDSTEIN

PHOTOGRAPHS BY BARBARA
MCGOWAN AND MICHAEL LEONG,
BIOMEDICAL COMMUNICATIONS



Take J. Keith Melancon, M.D., professor of surgery and chief of the Division of Transplant Surgery at GW's School of Medicine and Health Sciences (SMHS) and director of the new GW Transplant Institute at George Washington University Hospital (GW Hospital). Describing the charismatic and dapper Louisiana native as a transplant surgeon is a little bit like saying Mick Jagger has some stage presence. Which, in a way, explains why Melancon got into the business of swapping organs in the first place.

Melancon's medical baptism first came from the hindquarters of a cow — more on this later — but he always envisioned himself as a surgeon. As a boy in Lafayette, Melancon idolized Hawkeye Pierce, the wisecracking protagonist-M.D. of the 1970s television show "M.A.S.H." Through his mother, a surgical nurse at Charity Hospital, he got a firsthand view of the dominion doctors held in the hospital world.

That impression — surgeons as saviors — became permanently stitched on his psyche. Years later, Melancon, a third-year medical student researching a project on transplantation, witnessed a daily miracle in the OR. "The surgeon took the kidney out of the ice bucket, prepared the patient, and connected the vessels and the kidney, which was white, pale, and cadaveric," he recalls. "Suddenly, it came to life.

"The surgeons were like rock stars," Melancon exclaims. "I wanted to be a rock star!"

Now a transplant surgeon, the 46-year-old father of four boys has earned that status, with more "firsts" on his resume than a van full of valedictorians. In 2009, Melancon, leading the charge in making transplantation more widely available to the Washington, D.C. community, headed a team that performed a 26-person paired kidney exchange — 13 recipients and 13 donors. A year later, he helped set a record



“What I concentrated on was, let’s see if we can help people in the hardest-to-transplant areas,” Melancon says, “and it will translate into more transplants for everyone who is difficult to transplant. That is my strategy.”

with a 32-person kidney swap. The key in both these massive exchanges, says Melancon, is the altruistic donor — someone willing to donate one of his or her two kidneys, which can set off a “daisy chain,” in Melancon’s words, of matches between donors and patients.

At GW Hospital in late June 2015, to the tune of classic rock playing softly in the background, Melancon and Thomas Jarrett, M.D., professor and chair of the Department of Urology at SMHS, led such a daisy chain: a successful three-way paired kidney exchange. The procedures were the first ever at GW Hospital, and tricky ones at that. “The unique nature of the exchange was the fact that all of these recipients had received kidney transplants many years ago and were in need of new transplants, but [the kidneys of] their loved ones did not match,” he explains. “The patients were ‘sensitized,’ meaning it’s even harder to find a match.”

The transplant program Melancon and colleagues are building at GW, however, is dedicated to utilizing all means of performing live donor transplants. “We were able to help these patients find other transplant patients in the same predicament of needing a better-matched donor than their loved one,” he says. “We always aggressively push for local paired kidney exchange, because it is the quickest, most convenient, most cost-effective, and most reliable means of transplanting the most patients.”

“It’s not just one person,” adds Muralidharan Jagadeesan, M.B.B.S., associate professor of medicine and chair of transplant medicine at SMHS, and medical director of the renal transplant program at GW Hospital, about the transplant team being created at GW. “It’s not just a surgeon, it’s not just me; it’s the coordinator, the social worker, the pharmacist, the dietician, it’s everybody on the GW transplant team who’s going to work together to provide the service for you, so that you can participate on this very successful voyage of kidney transplant with us.”

With the increased incidence of precipitating illnesses such as hypertension and diabetes, and the fact that donations from deceased donors are, by necessity, limited, the GW transplant team has sought to bolster live donations through paired exchanges using altruistic donors.

All this is made feasible by the fact that humans come equipped with a spare kidney to share. The bean-shaped organ, roughly five inches long and weighing a bit more than a bar of soap, performs critical cleansing functions for the body, filtering waste materials from blood to then pass them out as urine. If the kidneys are not working properly, they can cause havoc. When that happens, patients have to go on dialysis to keep their bodies running, but sooner or later their kidneys will need to be swapped out. The good news is, although we are born with a pair, we can function just fine with only one kidney. Despite that redundancy, demand still dwarfs supply.

Numbers underline the immediacy of the crisis. Some 26 million Americans suffer from chronic kidney disease, and fewer than 400,000 of them have received kidney transplants. About 3,000 more are added to the waiting list annually, and roughly 4,500 of those on the transplant list die each year according to the National Kidney Foundation. In the United States, more than 100,000 people with renal failure are on the list for a deceased-donor kidney, typically waiting between four and five years. With nearly 2,000 patients in the queue, D.C.’s transplant waiting list is the country’s longest, says Melancon. Only one in four will receive a transplant. And although African-Americans make up only about 12 percent of the U.S. population, they represent 23 percent of patients on the waiting list, according to a report by the U.S. Department of Health and Human Services.

Organ donation, according to Melancon and Jagadeesan, offers patients the best of both worlds: low cost and better outcomes. Dialysis — which uses machines to cleanse the blood — is a big and profitable business. Melancon estimates



J. Keith Melancon, M.D. (left), and Muralidharan Jagadeesan, M.B.B.S. (center), convene weekly transplant committee meetings to discuss the elements of each case, from a patient's medical history to current physical and mental health status, as well as the availability and compatibility of a live organ donor.

ADVANCING ALTRUISM

National Minority Organ and Tissue Transplant Education Program Joins GW to Raise Organ Donation Awareness

BY STEVE GOLDSTEIN

According to the U.S. Department of Health and Human Services, 34 percent of the more than 101,000 people on the national waiting list for a kidney transplant are African-American. Overall, minorities account for 58 percent of those on organ transplant lists, but represent just 42 percent of those who receive transplant surgery. African-Americans make up the largest group of minorities in need of a transplant, at 30 percent, but they make up less than 14 percent of donors. Due to the greater incidence of diabetes and high blood pressure among African-Americans, they are more at risk for organ failure. Organ types are more likely to match if they come from individuals of the same ethnicity.

Community education is vital in reducing the rate and number of ethnic minority Americans in need of organ and tissue transplants. It's a big part of why, when J. Keith Melancon, M.D., came to Foggy Bottom in the fall of 2014 to serve as professor of surgery at GW's School of Medicine and Health Sciences (SMHS), chief of the Division of Transplant Surgery, and director of the Transplant Institute at GW

Hospital, he brought with him a ready-made community health organization, the National Minority Organ and Tissue Transplant Education Program (MOTTEP®). The partnership is the realization of Melancon's vision of increasing kidney donations by raising awareness. MOTTEP's expertise in the community helped garner support among District of Columbia authorities for the new transplant center.

"MOTTEP is a grassroots community organization," explains Melancon. "What it has done for GW is identify the best access for us to reach the people with end-stage renal disease." Hospitals, he adds, traditionally don't know where to go to interact with the community for health interdiction. "MOTTEP knows the corporate structure that's interested in helping, as well as where citizens tend to congregate and are open to this kind of discourse about health."

At a recent community event at a local Safeway grocery store, scores of D.C. residents received blood pressure tests, cholesterol checks, weight measurements, body mass assessments, and other health tests. They were also encouraged

that dialysis for one patient costs \$80,000 to \$100,000 annually, whereas a transplant runs about \$30,000. Transplant patients also have a longer life expectancy.

“Right now, all the advancements in immunosuppression and surgical techniques have improved outcome significantly,” explains Jagadeesan. The availability of desensitization (reducing antibodies) drugs and ABO-incompatible transplants — meaning the donor and recipient have different blood types — means a broader selection of patients can be transplanted successfully.

So if transplants are better, and more patients who need a kidney can qualify, why can’t they get them? Simply, explains Jagadeesan, “it’s a demand and supply problem. The demand for organs is not met by the supply.”

Since arriving at GW in early 2014, Melancon, with support from Anton Sidawy, M.D., M.P.H. ’99, Lewis B. Saltz Chair of Surgery, and professor of surgery at SMHS, has made it his mission to expand the universe of donors and thus increase transplantation. To help achieve this goal, Melancon has engineered a partnership with the Minority Organ and Tissue Transplant Education Program to inform the minority community about the facts — and fictions — of kidney donation (see related article below).

“What I want to concentrate on is helping people in the hardest-to-transplant areas,” Melancon says, “and it will translate into more transplants for everyone who is difficult to transplant. That is my strategy.”

The prospects, he adds, for making a significant improvement in the D.C. community is palpable.

Speaking of palpable — how now to explain the cow?

Melancon’s skill as a surgeon and as an advocate for his cause seem reinforced by an uncanny perceptiveness about the challenges ahead. One of his oldest friends, Perry Franklin, a classmate at Louisiana State University, recalls their first meeting at a post-high school summer program for minority students interested in veterinary medicine or health careers.

“We became fast friends,” says Franklin, “and one day we were being taught how to palpate a cow’s ovaries prior to artificial insemination. Keith was in front of me, but somehow he slipped behind me in line, and I was next. When I reached in, the cow explosively ejected my hand and arm and painted me with [awful stuff].

“Now how did Keith know not to be next in line?”

Franklin laughs.

Perhaps that timely line swap was Melancon’s first transplant. ■

to sign organ donor cards. “There’s been a long-standing suspicion in the African-American community about transplants and the medical establishment,” says Melancon. “MOTTEP is educating people so that they understand that if they donate more, there will be more transplants... We’ve done numerous events with MOTTEP, and they’ve been very successful.”

Clive Callender, M.D., who established MOTTEP in 1991, believes Melancon’s efforts are crucial to the organization’s mission and success. “Keith is a tremendous transplant surgeon,” Callender says, “but what’s special about him is his real love for the community and his willingness to go into the community to educate and empower people. He understands communication, and he has charisma, which makes him effective at reaching all ethnicities.”

MOTTEP, Callender explains, has created community programs for building relationships and raising community awareness regarding organ transplant in minority populations in the Washington, D.C. area. MOTTEP also promotes healthy lifestyles to prevent kidney disease.

Callender’s strategy to educate and raise awareness about the need for organ and tissue donation was based on overcoming five obstacles identified through focus groups:

- Lack of community awareness about renal disease and transplantation

- Conflicting religious beliefs
- Distrust of the medical community
- Fear that signing an organ donor card meant medical personnel would not work as hard to save them
- Belief that their organs would go only to whites

“We have always focused on outcomes,” says Callender, a clinical professor of surgery at Howard University Hospital, where he began a local MOTTEP in 1978 with a \$500 grant from the D.C. government to investigate low donor rates among minorities. “Of course, we wanted attitudes toward donation to change. But the important thing was to change behavior, and we have seen donations from blacks more than double since we started.”

MOTTEP joined with GW Hospital in its application to initiate a kidney and transplant program, and a certificate of need was granted in February 2014. A contract with MOTTEP was signed that same year and runs through 2017. MOTTEP’s presence at GW includes program director Patrice Miles, an administrator, and a regional coordinator.

“When I started MOTTEP, many people told me one person couldn’t change the donation equation for minorities,” says Callender, who, in New York City’s Harlem neighborhood, contracted tuberculosis at age 15 and was hospitalized for more than a year and a half. “My own adversity — and telling me it couldn’t be done — inspired me to do what seemed impossible.” ■

AIMING TO EDUCATE:

The GW/Ron and Joy Paul Kidney Center

BY CAROLINE TRENT-GURBUZ

In the epidemic of kidney disease, the number of people in need far outweighs those donating. Washington, D.C., more than any other city in the United States, has been at the center of this off-balance issue. The Ronald and Joy Paul Foundation, with a \$2.5 million gift, is establishing the GW/Ron and Joy Paul Kidney Center to address the urgent need for community awareness of kidney diagnosis, treatment, and donation.

“Joy and I felt very strongly that if we could better educate the community, then we could hopefully reduce the amount of kidney failure,” says Ron Paul, chair and CEO of Eagle Bancorp and Eagle Bank. “Should somebody be in end-stage renal failure, we want to be able to educate them on transplantation. It’s all about awareness and education. That’s what we’re going to be promoting through this center.”

For Paul, the gift strikes a personal note. In the 1980s, he was diagnosed with glomerulosclerosis, a kidney disease that can eventually end in kidney failure. “It came out of nowhere,” he says. “I didn’t have any pre-existing conditions, no diabetes, no high blood pressure, no issues at all other than I found out I had kidney failure.” Eight years later, Paul faced a decision of a lifetime of dialysis or a kidney transplant. He chose a transplant, and his brother, Steven, provided the needed organ. The donated kidney lasted far beyond its typical lifespan, but in 2008, Paul learned he would need

another transplant. Again, he received a donation, this time from his longtime friend and chief financial officer of his company, Kathy McCallum.

“When I had my first transplant in 1990, I had two very young children, I was starting a business, we had very little means to be able to support ourselves,” Paul says. “So, going from being pretty sick to being energetic and able to run a real estate company and be chairman of a bank, it’s a great feeling. But most importantly, now it’s a time to help others.”

Organs from live donors, such as Steven Paul and McCallum, are ideal; they shorten or completely eliminate a patient’s need to be placed on a waiting list or on dialysis, and the short- and

long-term survival rates tend to be better than those from deceased donors. With outreach from the GW/Ron and Joy Paul Kidney Center, the Pauls are hoping to tip the balance of kidney supply and demand, a move that could potentially save the lives of Washington, D.C. residents.

That mission of giving back to the community is one to which Paul ascribes on a daily basis. Hanging in his office and at his home is a saying from Winston Churchill: We make a living by what we get, but we make a life by what we give.

“That’s what we’ve tried to teach to our children and family, and tried to live by,” he says. “It’s pretty powerful if you can get your arms around it.” ■





Rao Rises to Department Chair

Raj Rao, M.D., a nationally recognized authority in spinal biomechanics, injuries, and fusion, is expanding his expertise; as the new chair of the Department of Orthopedic Surgery at George Washington Hospital (GW Hospital) and GW's School of Medicine and Health Sciences, he will position the department for clinical and research growth.

"GW Hospital is pleased to have Dr. Rao join our comprehensive team as the new chair of the Department of Orthopedic Surgery," said Barry Wolfman, M.S. '84, CEO of GW Hospital. "Dr. Rao's vital orthopedic research, his commitment to his patients and staff, and his dedication to engaging with the communities he serves will help us continue GW's legacy of progressive leadership. The advanced care that our established orthopedic team already provides will only benefit from his leadership and engagement."

Rao comes to GW from the Medical College of Wisconsin, where he served as vice chair in the Department of Orthopedic Surgery and professor of orthopedic surgery and of neurosurgery. In 2014, Rao was appointed as chair of the FDA Advisory Panel on Orthopaedic and Rehabilitation Devices; there, he leads the panel in reviewing the safety and efficacy of orthopedic and spine-related devices for marketing in the United States. He was the recipient of the David Selby Award of the North American Spine Society in 2014. ■

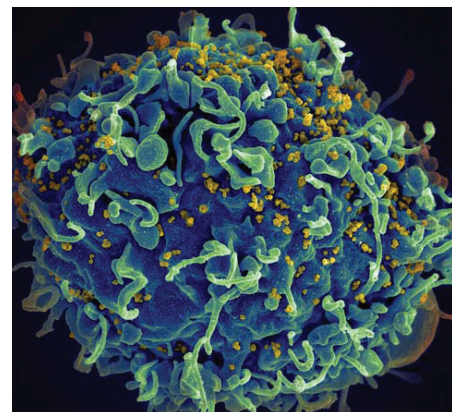
Pattern Potential

In the battle against HIV/AIDS, new research co-authored by Douglas F. Nixon, M.D., Ph.D., Walter G. Ross Professor and chair of the Department of Microbiology, Immunology, and Tropical Medicine at GW's School of Medicine and Health Sciences (SMHS), points to immune responses as a potential deciding factor in infection. According to Nixon's findings, some individuals who have been exposed to HIV-1, but who remain uninfected, have a different pattern of virus-specific immune responses from those who became infected with the retrovirus.

"Research has shown that T-cell responses can be observed in virally exposed but uninfected persons," said

Nixon. "The question that has remained unanswered is whether or not these T-cell responses could be protecting people from acquiring systemic HIV infection. What we found was ... a correlation between future infection risk and a measurable immune response."

Nixon and colleagues from the University of California at San Francisco; the University of Sao Paulo in Brazil; and the Gladstone Institutes reviewed data from the Pre-exposure Prophylaxis Initiative (iPrEx) trial, the first randomized controlled trial of pre-exposure chemoprophylaxis (PrEP) in humans. Remaining specimens from the trial were used to test for naturally acquired or induced immunity to HIV-1 infection. The team discovered that those



who became infected typically lacked responses to two HIV-1 proteins. The findings, published in the Proceedings of the National Academy of Sciences, suggest that such immune responses may play a role in blocking systemic infection after exposure to the virus. ■



The Wright Stuff

Karen Wright, Ph.D., PA-C, was selected to serve as the interim chair and program director of the Department of Physician Assistant Studies at the GW School of Medicine and Health Sciences.

Wright brings more than 28 years of experience as a physician assistant (PA) to the position, and much of her career has been dedicated to the education and development of future PAs. She has been a member of the GW faculty since 2008 and has served in a leadership role as the director of research, program evaluation, and admissions. Wright also served as the associate program director during the reaccreditation process. GW's PA program is one of the top-ranked PA programs within the United States and recently earned reaccreditation for a full seven-year term. ■

Doctor-Editor



Gaetano Lotrecchiano, Ed.D., Ph.D., assistant professor of clinical research and leadership and of pedi-

atrics at GW's School of Medicine and Health Sciences, is branching out to add "associate editor" to his list of titles. On July 1, 2015, Lotrecchiano assumed his new role at the Journal of Collaborative Healthcare and Translational Medicine (JCHTM), formerly published as the Journal of Translational Medicine and Epidemiology.

The international peer-reviewed journal is dedicated to the advancement of research, science, editorial, review, and practical applications in the areas of translational health care and medicine. In addition to "bench to bedside to market" processes, the JCHTM strives to highlight the collaborative aspects of translational science through the contributions of team science research, social and behavioral science, economic and technological inquiry, and the experience of health and biomedical

professions involved in translational health and medical sciences.

"I am honored and humbled by the opportunity to serve in this role within the JCHTM," Lotrecchiano said. "Contributing to science is very important to me as a professor and a scholar. My goal is to lead the JCHTM to offer commentary, research, and communications to an audience of medical and health care researchers, practitioners, and policy-makers through the presentation of relevant and high-quality scholarship." ■

Akman Joins PACHA

Jeffrey S. Akman, M.D. '81, RESD '85, vice president for health affairs at GW, Walter A. Bloedorn Professor of Administrative Medicine, and dean of GW's School of Medicine and Health Sciences, was sworn in as a new member of the Presidential Advisory Council on HIV/AIDS (PACHA) on May 21, 2015.

As part of PACHA, Akman, who has treated patients living with HIV since the beginning of the epidemic, will work with local and national community leaders, as well as leaders from science, medicine, public health, business, and philanthropic organizations to provide advice, information, and recommendations

on HIV-related issues and policies to the Department of Health and Human Services and the White House.

"I am thrilled to be a part of this important group," said Akman. "As a psychiatric physician, I understand the importance of sound national and federal HIV/AIDS policy and its implications for the delivery of care and overall well-being for many patients with HIV/AIDS and those at high risk for the disease. I look forward to working with my colleagues on this council as we help guide our nation's top leaders in making informed decisions related to HIV/AIDS."

For many years, Akman has been advising physicians, research institutes, and medical organizations on the need for mental health and substance use care to be included when treating HIV patients. In his role as an advisor, he served as the principal investigator for a NIH grant to train health care professionals in the medical and mental health aspects of HIV/AIDS.

He has provided leadership and advisement for many prestigious HIV/AIDS-related initiatives, including the American Psychiatric Association's first commission on AIDS. He also served on the Mayor's Commission on HIV/AIDS and chaired the commission's Treatment on Demand Committee. ■



In the Name of Student Support

Katherine Chretien, M.D., associate professor of medicine and new assistant dean for student affairs for GW's School of Medicine and Health Sciences, is bolstering support for students navigating their medical education and career prospects.

As a member of the dean's executive leadership team, Chretien, in her new role, will participate in the development and operation of an accredited undergraduate medical education program. She also will develop a career counseling program and a system for access to health services; prepare the Medical Student Performance Evaluation for senior medical students; and provide leadership in the development of programs and policies designed to foster the academic, personal, and career success of a diverse student body.

Additionally, Chretien will participate in the student admissions process, including interviewing and reviewing files of potential students, as well as assisting with the planning and implementation of strategies leading to successful accreditation of the undergraduate education program. ■

Nitric Oxide 1, Acne 0

Chalk up another entry on the list of medical ailments that nitric oxide treats. The cellular signaling molecule is already associated with the treatment of conditions such as pulmonary hypertension and acute respiratory distress syndrome, and it plays a key role in the function of medication for erectile dysfunction. Now, GW researcher and dermatologist Adam Friedman, M.D., has discovered that the release of nitric oxide over time may effectively treat and prevent acne. The research, published in the *Journal of Investigative Dermatology*, suggests that nitric oxide nanoparticles are effective at killing the bacteria associated with acne. More importantly, the nanoparticle treatment inhibits the damaging inflammation that results in the large, painful lesions associated with inflammatory acne.

"Our understanding of acne has changed dramatically in the last 15 to 20 years," said Friedman, associate professor of dermatology at GW's School of Medicine and Health Sciences and co-author of the study. "Inflammation is really the driving force behind all types of acne."

The study focused on a recently identified pathway known as an inflammasome, responsible for the activation of the inflammatory



process in acne. Friedman and colleagues from Albert Einstein College of Medicine and the University of California at Los Angeles determined that nitric oxide served as an effective means of killing the bacterium that causes acne without using an antibiotic. They also found that its use inhibits the inflammasome pathways central to the formation of a pimple before it is even visible.

"By killing the bacterium and blocking multiple components of the inflammasome," explained Friedman, "this approach may lead to better treatment options for acne sufferers, and possibly treatments for other inflammatory skin conditions." ■

Margaret Plack Named CRL Interim Chair

Margaret M. Plack, Ed.D., DPT, PT, has been named interim chair of the Department of Clinical Research and Leadership (CRL) at GW's School of Medicine and Health Sciences. In her new position, Plack will oversee and provide leadership support for the department's 12 programs.

With more than 25 years of experience in both academic and clinical

practice, Plack, a professor of physical therapy and health care sciences, brings outstanding credentials to the stewardship of CRL. A longtime leader at SMHS, she has served as the director of the Physical Therapy program, chair of the Department of Health Care Sciences, and interim senior associate dean for health sciences since joining the faculty in 2004. ■



The "Kick and Kill" Strategy

GenerationCURE, a group of young professionals dedicated to supporting the cure-focused research of the American Foundation for AIDS Research (amfAR), recently awarded its inaugural \$180,000 research grant to Brad Jones, Ph.D., assistant professor in the Department of Microbiology, Immunology, and Tropical Medicine's Research Center for the Cure and Eradication of HIV at GW's School of Medicine and Health Sciences. Jones is employing an innovative approach to HIV treatment.

"It's a terrific honor to have our work recognized by generationCURE, and we will be working especially hard to deliver impactful results that are worthy of the effort they put into this unique fundraising initiative," said Jones. "If successful, our work will set the stage for clinical testing of novel, potentially curative HIV therapeutics."

Jones and his colleagues are exploring whether a novel combination therapy can eradicate the latent reservoirs of HIV that present a major barrier to finding a cure. Although antiretroviral therapy can reduce active HIV to undetectable levels in the blood, it cannot reach dormant HIV in cells, which can reactivate and replicate at any time. The team will employ a strategy known as "kick and kill" to

attack this reservoir. Many researchers using this approach have been challenged by their patients' immune systems' inability to kill the cells infected with the reactivated virus.

Jones hopes to overcome this challenge by using a drug that increases the activity of a protein known as TLR2 (a TLR2 agonist). They have previously shown that the TLR2 agonist can reactivate – or "kick" – the latent HIV in infected cells, while simultaneously boosting the ability of a patient's own cytotoxic T-cells to kill those infected cells. ■

The "Low-T" and Depression Link

Researchers at GW, led by Michael S. Irwig, M.D., found that men referred for tertiary care for borderline testosterone levels had much higher rates of depression and depressive symptoms than those of the general population.

"In an era where more and more men are being tested for 'Low T' – or lower levels of testosterone – there is very little data about the men who have borderline low testosterone levels," said Irwig, associate professor of medicine and director of the Center for Andrology at GW's School of Medicine and Health Sciences. "We felt it important to explore the mental health of this population."

The research, slated to be published online in the *Journal of Sexual Medicine*, focused on 200 adult men, aged 20-77 years, who were referred for borderline total testosterone levels between 200 and 350 ng/dL. Depression and/or depressive symptoms were present in 56 percent of the subjects. Furthermore, one-quarter of the men in the study were taking antidepressants and had high rates of obesity and low rates of physical activity. The most common symptoms were erectile dysfunction, decreased libido, fewer morning erections, low energy, and sleep disturbances.

Although more research is needed in this area of study, the researchers concluded that clinicians should consider screening for depression and depressive symptoms, overweight, and unhealthy lifestyle factors in men who are referred for tertiary care for potential hypogonadism. ■

Listening and Learning

Collaboration between health care professionals, researchers, and institutions is quickly becoming the name of the game; to that end, Ashkan Monfared, M.D., associate professor of surgery and neurosurgery at the GW School of Medicine and Health Sciences, and his colleagues from Global ENT Outreach, El Centro de los Sentidos, and Clinica de Marly hosted the first Advanced Otology and Temporal Bone Course in Bogota, Colombia. The two-day, hands-on course provided instruction for complex otologic surgeries that can cause potentially devastating morbidity in patients.

"It was a great opportunity to work with these medical trainees in Colombia and assist in sharpening their surgical skills so they can significantly improve outcomes for patients with otologic disorders," said Monfared, who served as a course faculty member with support from the Ruth Upperco Paul Fund for Hearing Health and Rehabilitation. "The response from the group was overwhelmingly positive, and they asked for additional opportunities for training. It's our goal to offer this course twice per year and to extend the hands-on section by an extra half day."

In addition to his work with the course, Monfared helped develop the mission for a charitable hearing health organization founded by one of the course leaders, Martin Fernandez, M.D. Monfared will coordinate the efforts between GW and the organization – the first of its kind in Colombia – and serve on its board of directors. ■



Edward Seto to Spearhead Basic Sciences at GW Cancer Center

The newly established GW Cancer Center, with director Eduardo Sotomayor, M.D., at the helm, has tapped Edward Seto, Ph.D., as the associate director for basic sciences. Seto, an internationally recognized scientist and leader in cancer epigenetics, will spearhead the center's ongoing development, implementation, and evaluation of basic science-related programs and initiatives.

"I am thrilled that a basic scientist and a leader of the stature of Ed Seto has joined the GW Cancer Center team. He is the kind of scientist that every major cancer center would love to have. We are very pleased that among all the cancer centers that he was enticed to join, Ed has chosen the GW Cancer Center to continue with his extremely productive scientific career," said Sotomayor, who also holds the position of professor of medicine at GW's School of Medicine and Health Sciences (SMHS). "Ed and I, along with the senior leaders of GW, the GW Medical Faculty Associates, and GW Hospital, shared the same vision that strength in basic science is fundamental for the building of an innovative cancer research enterprise."

Seto's additional responsibilities include collaborating with other associate directors of cancer centers – particularly those specializing in clinical investigation, population science, administration, and education, among others – to integrate all programs, and identifying areas that could become potential scientific programs and part of the National Cancer Institute designation grant application. Seto will also serve as professor of biochemistry and molecular medicine at SMHS. ■

Leadership in Research

Award-winning neuroscientist and published researcher Robert H. Miller, Ph.D., attributes much of his success to honing his approach to science.

Becoming a scientist "is asking important questions that are practical and designing experiments that give you unambiguous answers," said Miller, senior associate dean for research and professor of anatomy and regenerative biology at the GW School of Medicine and Health Sciences (SMHS). "If you can do that, you can do science."

Miller's words came as part of his formal installation in May 2015 as the Vivian Gill Distinguished Research Professor. The professorship was created in 1967 by a gift from Thomas H. Gill in memory of his wife, Vivian. Miller joined past distinguished Gill professors David Reiss, former professor of psychiatry and behavioral sciences, of medicine, and of psychology at SMHS; and Steven R. Patierno, adjunct professor of pharmacology and physiology at SMHS.

Miller joined the SMHS faculty in June 2014, having previously served as the vice president for research at Case Western Reserve University. ■

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STUDYING *and* SCHOLARSHIP

BY CAROLINE TRENT-GURBUZ

When it comes to higher education in the United States, cost can be a serious impediment for ambitious students, especially those seeking to carve out careers in medicine and the health sciences, the Association of American Medical Colleges reports. Compounding increasing costs are additional years of residencies and internships, at times compelling soon-to-be clinicians to make specialty decisions based on finances, rather than desires. In an effort to ease those pecuniary burdens, GW's School of Medicine and Health Sciences (SMHS) has established, and continues to explore, new avenues of financial support.

"It is vital that our students, tomorrow's leaders in medicine and the health sciences, are not limited when it comes to serving their communities," says Jeffrey S. Akman, M.D. '81, RESD '85, vice president for health affairs at GW, Walter A. Bloedorn Professor of Administrative Medicine, and dean of SMHS. "That is why we continue to prioritize current-use and endowed scholarships, as well as additional philanthropic aid."

ADOPT-A-DOC

Daegu, South Korea, native Jiyong Lee, M.D. '15, didn't expect to receive a scholarship before attending SMHS; as an international student, he wasn't even eligible for federal loans. His first year at GW, however, he and Allison Hoff, M.D. '15, became the first recipients of the then nascent scholarship program "Adopt-a-Doc."

Adopt-a-Doc began with a gift from Russell Libby, M.D. '79, assistant clinical professor of pediatrics at SMHS,

who donated funds in memory of his mother, Leona Libby Feldman. The idea of the gift — a minimum of \$20,000 to be spread equally over a four-year period — was to make both an immediate and lasting impact on students' debt burden, including on the accumulation of compounding interest, while ensuring donors knew the student who was benefiting. "I feel good knowing that the contribution has a name and a face and is [meant for] someone for whom I can potentially act as a mentor," Libby said at the time of his donation.

Sandra Caskie, M.D. '82, also pledged a gift in memory of a loved one: her former classmate and close friend, Henrietta Leonard, M.D. '82, RESD '85, a Rhode Island-based psychiatrist who died in 2007. Caskie's gift went to Lee, Libby's to Hoff, who is now a resident at the University of Maryland Medical Center.

For Lee, the gift was invaluable, allowing him to focus on primary care medicine, a field typically less lucrative than others. "The second I got a call from Dr. Caskie, I had less of a burden than other people, and I could pursue a career in primary care, which I really wanted to do," says Lee, a resident at Dartmouth-Hitchcock Medical Center in New Hampshire. "Sometimes other students don't have that opportunity, and they try to divert their paths to the more specialized fields for a better income. This scholarship provided me room financially, and Dr. Caskie encouraged me to pursue my career in primary care."

Since its inception, Adopt-a-Doc has grown to include nearly two dozen scholarships. One contributor, Tom Flynn, M.D. '86, is supporting five medical students, and the SMHS

Class of '87 banded together to provide support to a member of the next generation of physicians.

To learn more about becoming involved in the program, contact Sumana Chatterjee, director of development, at schatter@gwu.edu or (202) 994-6724, or visit smhs.gwu.edu/give/power-of-giving/adopt-a-doc-scholarship.

WHITE COAT INITIATIVE

The white coat, though simple in design, is an iconic symbol for those in health care; when they don their coats for the first time — a passage treated with ceremony and respect — medical and health sciences students are reminded of their commitment to, and passion for, healing. Putting on the coat also signifies the start of a career and the responsibility and trust that decision entails.

In recognition of that milestone, the White Coat Initiative, which started in 2001, allows SMHS alumni to forge relationships with students entering the field, acting as a welcome to the professional community. For medical students, alumni's financial support provides for white coats, supplies used during Community Service Day, and educational technology and software, in addition to other activities. More recently, in the fall of 2014, the White Coat Initiative helped to provide incoming medical students with iPads and iPad minis, part of an SMHS transition toward a paperless curriculum and more accessible program materials. The White Coat Initiative was extended two years ago to physician assistant (PA) students, who receive their long white coats at a pre-graduation ceremony.

"It is truly reassuring that I am following in the footsteps of qualified, driven, well-educated GW alumni," says Elizabeth Prevou, PA-C '15, M.P.H. '15. "To have them as part of my White Coat Ceremony, and to wear a white coat gifted by one of them, is a reminder for me to keep perspective, continue persevering, and honor my chosen profession."

For more information on the M.D. White Coat Initiative, please contact Lisa Harter at lwharter@gwu.edu.

For more information on the PA White Coat Initiative, as well as for information on options for physical therapy and other health sciences students, please contact Sarah Klein at smklein@gwu.edu.

ENDOWED SCHOLARSHIPS

Each year, SMHS provides more than \$5 million in support; close to 75 percent of students receive funds. Of those, around half receive private philanthropic aid. Endowed scholarships — which total close to 80 — offer considerable funding opportunities for students. Some provide general support for students in medicine and the health sciences, whereas others are more tailored to the interests of the donors. The Ella F. Andrews, the Anna Bartsch, and the Hazel Mae Bayne, M.A. '30, B.A. '25, Scholarship Funds, for example, provide assistance

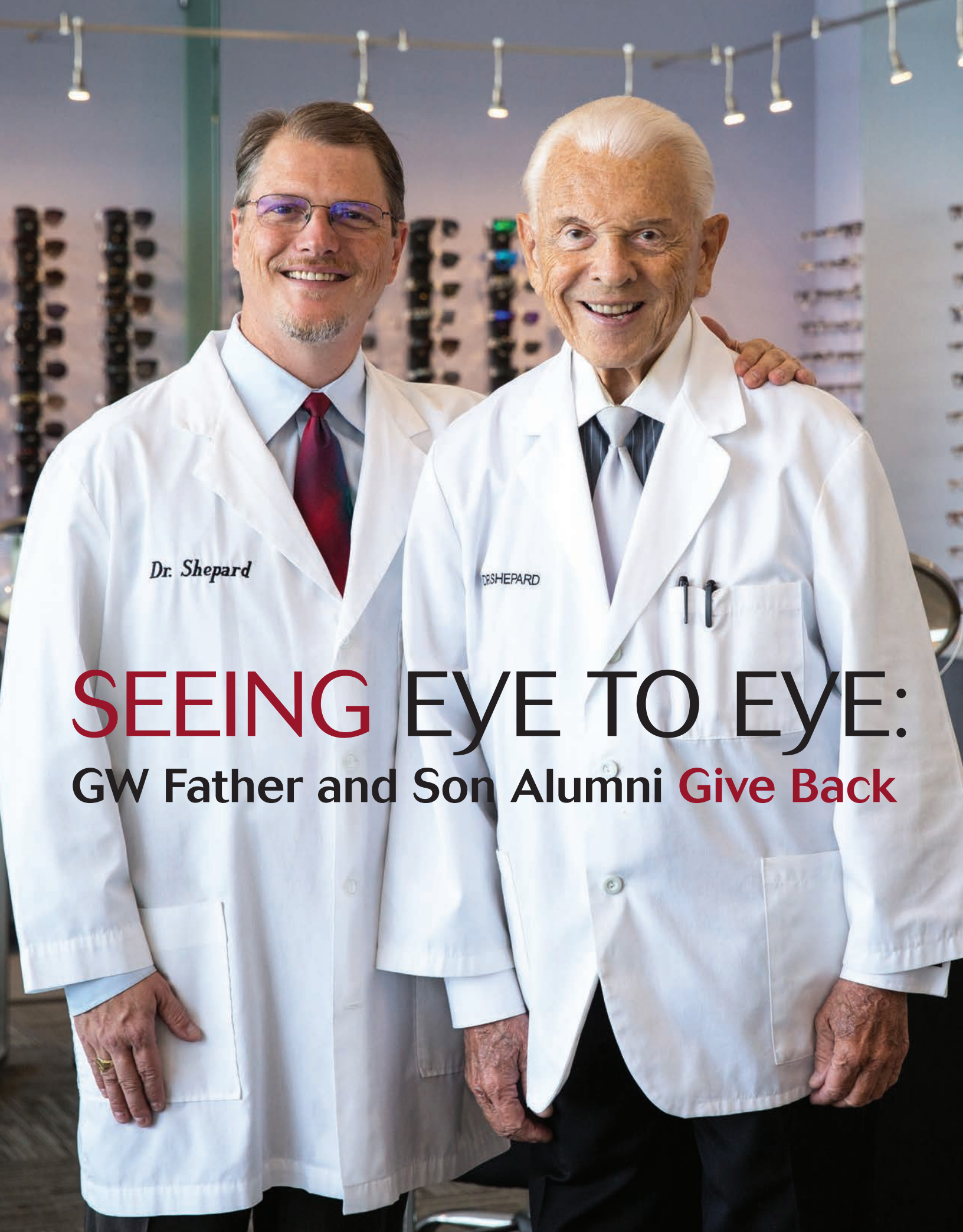


The George Washington University School of Medicine and Health Sciences (SMHS) held a special reception in Sag Harbor, New York to benefit SMHS organizations, The Research Center for the Eradication of HIV and The Rodham Institute for Health Care Provider Education to Eliminate Disparities, at the home of John D. Evans and Steve Wozencraft on Aug. 29.

The event, principally sponsored by the John D. Evans Foundation, as well as Sisley Paris, Royal Asscher, and the Cyrus Katzen Foundation, featured a welcome from host John Evans followed by remarks from Jeffrey S. Akman, M.D. '81, RESD '85, vice president for health affairs, Walter A. Bloedorn Professor of Administrative Medicine, and dean at SMHS, as well as Douglas F. Nixon, M.D., Ph.D., Ross Professor of Basic Science Research and chair, Department of Microbiology, Immunology, and Tropical Medicine at SMHS; and Jehan El-Bayoumi, M.D., RESD '88, founding director, The Rodham Institute and professor of medicine at SMHS.

to female students; the Henry and Mary Amster and Louise Greenburg Amster Scholarship Endowment in Medicine, on the other hand, awards funding to those with an interest, knowledge, and commitment to the Jewish community. Additional scholarships target students specializing in specific fields, such as radiology or health care delivery, and the Eugene B. Casey Scholarship Fund provides four years of full tuition, room, and board.

"Here at GW, we know the bedrock of our mission is educating and training the next generation of physicians and healers," says Dennis Narango, M.A., CFRE, associate vice president and associate dean at SMHS. "The bottom line is that we need a robust scholarship program in order to attract the best and the brightest." ■



Dr. Shepard

DRSHEPARD



SEEING EYE TO EYE:

GW Father and Son Alumni Give Back

In the coastal town of Santa Maria, California, about three hours northwest of Los Angeles, the Shepard family — Dennis, Franziska, Daniel, and Nancy — regularly gathered at the dinner table to discuss the practice and business of medicine. It was a tradition that Dennis Shepard, M.D. '63, traces back to his wife's childhood in Vienna, Austria.

"She was raised in the hotel and restaurant industry, and they were all wonderful cooks, unbelievably good," Dennis recalls. "They cooked a lot and would eat a lot, and ... everyone sat around and talked. This passed onto me."

Although he hesitates to use the term "push," Dennis believes that the dinner table conversations steered his children toward the service industry; Nancy became a lawyer, and Daniel, M.D. '96, M.P.H. '96, followed his father's lead into medicine.

"I feel like I have an unusual perspective because I have an institutional view of medicine that goes back almost 50 years now," Daniel says. "We were talking about everything from diagnostic techniques to governmental policy and billing practices, at a very early age. That was dinner table conversation."

Both Dennis and Daniel — a unique pair of father-son GW School of Medicine and Health Sciences (SMHS) alumni — specialized in ophthalmology, though as Daniel explains, their drives for medicine were different. "My father, in addition to providing quality medical care to the patients in the community, was looking for a type of notoriety," Daniel explains. "He wanted to make a splash. I've had a little more internal motivation. I have been, for want of a better term, an adrenaline junkie for all of my life."

It's an assessment that Dennis agrees with. The elder Shepard's path into medicine started in childhood, when his mother suggested he go into a profession where he could "wear a white coat," rather than follow the family business of farming. Dennis eventually enlisted in the military and served as a combat medic during the Korean War. He was also stationed in Vietnam and Japan, and his career led him to running MASH units and building walk-in clinics. When it came to applying to medical school, however, Dennis hit a bump. He applied to fewer medical schools than his peers, and an early struggle with math affected his GPA. Dennis's mother called Howard Stern, the Shepard family doctor who had ties to GW, who "put in a good word for me," Dennis says.

"I owe a lot to GW because they accepted me when nobody else would even give me an interview," he explains. "It made a total difference, 100 percent difference, in my life. It permitted me to be a doctor."

Dennis became a prominent surgeon and ophthalmologist who pioneered development in intraocular lenses and refractive surgery. In 1967, he founded the Santa Maria-based Shepard Eye Center, one of the largest private eye clinics in the

world. A little over a decade ago, the Shepard Eye Center and Kendall Optometry merged and opened a second facility, the Kendall-Shepard Eye Center, in Lompoc, California. Dennis has garnered awards, such as the GW Alumni Service Award in 2001, and held multiple leadership positions. In short, he has made a splash.

For Daniel, the family business made for a natural transition. He started as a work-up technician at the Shepard Eye Center, and by age 14, he was passing instruments to his father in the operating room. He earned his EMT certificate before even earning a high school diploma, and he put together a first-aid crew in college. At GW, he became one of the few in his class to earn his Master of Public Health degree with his M.D. degree.

"The big drives have been one, kind of the adrenaline junkie," he says, "and two, whatever I could do to distinguish myself from the crowd."

Daniel toyed with the idea of pursuing pulmonary critical care before committing to ophthalmology, specifically retinal surgery. Retina, he explains, has that adrenaline element. "Retinal detachment, neovascular glaucoma, endophthalmitis, penetrating eye trauma and foreign bodies; these are the bailiwick of the retina surgeon, and these demand an availability and willingness from the doctor to deal with them at any hour and for as long as it takes to resolve the issue," he says. "The sense of precarious urgency, and the need that I fill by being here to provide such care in unpredictable situations, creates a satisfying adrenaline rush whenever such a case comes through my door."

Even though he and his father are in ophthalmology, he adds, they're not in competition. "There were some very interesting discussions when I could bring new information to the table because of my interest in retina, beyond what [my dad] had been doing," Daniel says. "We had a lot of fun doing that."

With the Shepards firmly established in the medical world, they recently decided to give back to the institution they credit with their initiation into general medicine. "We've got a long-term relationship with the university," says Daniel, who now holds an active faculty appointment and a visiting lecturer role with the Department of Ophthalmology at SMHS. "We found ourselves in a position where we had the opportunity to give back."

And so, with help from Franziska and her well-developed business acumen, the Shepard Professorship gift was created. Although the gift is still in an "incubation process," Daniel explains, it will go toward the ophthalmology department. "We are looking forward to seeing what the medical school and the department are going to do with these resources," Daniel says, adding that he cherishes the time he spent at GW.

Dennis echoes his son's sentiments: "I owe everything to GW, and that's where my heart of the gift comes from." ■



CARE IN CONFIDENCE EQUALS CONFIDENCE IN CARE

BY STEVE GOLDSTEIN
PHOTOGRAPH COURTESY OF THE TAMPA BAY BUCCANEERS

THE FIRST RULE

of being a doctor for a professional sports team: You do not talk about the team. To be more precise, you do not talk about the athletes you treat on the team. The wrong word about a player's health could hurt far more than any sprain, strain, or break. This is something Sanjay Menon, M.D. '06, learned quickly as he began his career in sports medicine.

"Athletes are very sensitive about how their stories and interactions are portrayed ... there's suspicion about team doctors," says the 36-year-old son of Indian immigrants. Based at Suncoast Medical Clinic in St. Petersburg, Florida, Menon is the team physician for the National Football League's Tampa Bay Buccaneers and an orthopedic consultant to Major League Baseball's Tampa Bay Rays and the North American Soccer League's Tampa Bay Rowdies. "I want any athlete I work with to know I work for them and not anybody else."

As a cautionary tale, he cited the example of a well-known sports medicine surgeon who was incompletely quoted about a surgery performed on a star college quarterback. The player's NFL draft value plummeted and the player never forgave his doctor.

"If athletes know I have their best interests in mind professionally, they will be confident that I'm watching out for them medically, too," Menon explains. In the high-stakes world of professional sports, being a skilled physician, like being a gifted athlete, is not enough.

Though he's the son of a successful orthopedic hand surgeon who designed the modern-day wrist replacement, Menon initially tried a different career tack. A music and humanities major at the University of Southern California, Menon sang in a rock band and worked as a trainee talent agent for the Endeavor agency, headed by Ari Emanuel, who was immortalized in the fictional TV series "Entourage." "One

of the greatest skills you learn in that business is communication," explains Menon. "Physicians are often faulted for not communicating well."

Ultimately, medicine lured him back, and Menon enrolled in a post-baccalaureate, premedical program at Scripps College in Claremont, California, where his high achievement ensured an interview at GW's School of Medicine and Health Sciences (SMHS). That brought him east to Foggy Bottom and a literal love affair at SMHS. He met his wife, Amy Strickland, M.D. '06, at med school, and before long their classmates made up nearly a third of their wedding guest list. Strickland is now the gastroenterologist for the Tampa Bay Rays, so whether it's your bones or your belly that is aching, the Strickland-Menon family has you covered, they joke.

"I've always felt I was extremely well prepared by the teachers at SMHS," Menon says with pride. "That helped me get into a good residency program at Los Angeles County Harbor-UCLA Medical Center." The springboard into sports medicine was a prestigious one-year orthopedic fellowship with the legendary James Andrews, M.D., one of the most innovative sports surgeons in the world. Andrews mentors dozens of jock docs, including Menon.

Menon's 2011-12 fellowship took him to the Andrews Institute in Gulf Breeze, Florida, which features a high-level sports fitness facility where many elite athletes rehab or train. He got his first college exposure during that period as a team physician for Auburn University. Studying at Andrews put Menon "on the radar" with pro teams, as did working with elite high school football teams and having a connection with a former Andrews fellow working with the Tampa Bay Rays.

"So by taking care of athletes and being available, [you encourage] people [to] think of you when positions open," says Menon.

Menon is busy on and off the playing

field, regularly seeing patients at the Suncoast clinic. "When it comes to an injury, you treat everyone the same," he explains. "One of my mentors would say, 'Don't get fancy.' With athletes, however, the timeline [for repair and recovery] may get compressed. For an athlete there may be less of a role for conservative care, depending on the injury and the remaining schedule."

Sports medicine requires Menon to stay up to date with innovative therapies, particularly the use of biologics such as stem cells and PRP (platelet-rich plasma) — treatments that can speed healing. Injury types vary with each sport, however. Football players suffer more acute injuries, such as ligament tears and dislocations, whereas baseball produces more chronic overuse injuries from early specialization in a single sport. Baseball is rife with cases of the so-called Tommy John surgery for pitchers who have worn out or torn the ulnar collateral ligament in their elbows. Among soccer players, Menon sees both overuse and acute injuries.

The resiliency and determination of athletes continues to impress Menon. He cites the example of a Rays pitcher who underwent Tommy John surgery a year ago. While participating in the extensive rehab, and essentially putting his life and career on hold for more than a year, the pitcher suffered a major setback during a throwing session when his medial epicondyle tore off. Another surgery with a lengthy rehab was required.

"What was so remarkable was how composed and deliberate the player was about the whole event," Menon recalls. "The hallmark of a true professional competitor is seeing each challenge as just part of the game. He told me he was ready to get the procedure done so he could get back to where he needed to be."

Menon's job is to get players back on the field — not to talk about it. He admires his patients. "The best thing about working with athletes is their drive and their love of sports," he says. ■



IT'S GENETIC: Mother and Daughter Pursue a Health Sciences Education Track Together

BY CAROLINE TRENT-GURBUZ

As a student, Emily Kavanaugh started down the path of nursing, picking up fundamental courses as she strode toward her future. But two consecutive summer internships tempted her off the trail.

"Since about 2007, when I first interned at a clinical research facility, I knew that I wanted to do something with research," says Emily. "It fascinated me."

The research during her internships, she explains, focused on Alzheimer's disease. One patient, "Shep," showed signs of progress; the first summer Emily was there, he didn't recognize his family, but by the second summer, he was chatting about his granddaughter. "That was my turning point: realizing that you have a direct impact on someone's life in that way for future generations," Emily says. Not long after, she decided to enroll in the online bachelor's degree completion program in the Clinical Research Administration

(CRA) track at GW's School of Medicine and Health Sciences (SMHS). And she wasn't alone.

Gina Kavanaugh, like her daughter, was on a nursing path. After many years working as a registered nurse, Gina made the jump to research. "I've been involved in clinical research for 15 years," Gina says. "That's really where my love has evolved." As she ascended in her field – rising to director of research at the facility where Emily interned – Gina realized further career advancement required earning her bachelor's degree in clinical research. In an industry as degree-conscious as clinical research, there is a constant demand to keep pace through higher education and ongoing training. Gina, like Emily, enrolled in GW's Bachelor of Science in Health Sciences degree program in CRA.

"When I started out in the field, there was very little formal training for a coordinator," explains Gina. "Most of the education on the process was provided by the pharmaceutical companies conducting the trials. I was very excited to find such an excellent program of study at GW."

The SMHS program focuses on drug development and the various aspects of managing clinical trials and outcomes. It's a profession, says Joan Butler, Ed.D. '09, program director for the academic undergraduate and graduate online CRA programs and assistant professor in the Department of Clinical Research and Leadership at SMHS, that appeals to those passionate about research.

"One of the overriding aspects that really draws students to this career is the fact that they're helping patients by discovering new treatments and therapies that allow them to effectively treat their unmet medical needs," says Butler.

Gina and Emily Kavanaugh describe their experience as classmates in the program with the same word: awesome. The two are friendly competitors of sorts; academically, they strive to outdo each other on tests and assignments, and Gina's grade point average is one-tenth of a point higher than Emily's – for now. They also rely on each other's strengths. "The whole online learning [approach] was a bit of a learning curve within itself," Gina says, "so I was really hoping [Emily] would be able to help me make that transition and get back into that mindset of school."

The program has allowed the two to remain in greater contact, though they live on opposite sides of Virginia: Gina is in Newport News, where she's now the director of research and discovery for Riverside Health System; Emily, a college recruitment representative at the Jefferson College of Health Sciences, lives in Roanoke. The two talk shop whenever they can – even at holiday dinners, much to the family's dismay.

With their first year completed, Emily and Gina are contemplating future plans, but more immediately, they're anticipating the graduation ceremony. "That's the one thing we're really looking forward to," Emily says. "I think that would be so special [to do together]." ■

From GW to Southeast Asia

SMHS alumnus taps into clinical and FDA expertise to help nations in Southeast Asia implement medical device regulatory regimes

BY CAROLINE TRENT-GURBUZ

Stuart Portnoy, M.D. '91, RESD '92, has just returned from a trip to Germany and Austria with his family. His itinerary is colorful and neatly laid out in a document on his laptop, though he clicks from it to other items, including a map of another trip, this one to Vietnam in April. The September before he was in Malaysia, and a year before that his destination was Singapore. This latest passage abroad was personal; the others, business.

"It's so much fun for me to be [in Southeast Asia]," Portnoy says, "and I love traveling."

Although his trips are recent, the story behind them stretches back years. Portnoy's journey began as a young student. "From the time I was at GW medical school – I'd already studied chemical engineering as an undergraduate – I knew during Year One that I wanted to do something at the intersection of medicine and technology," he says.

With that convergence in mind, Portnoy wrote GW to delay his enrollment by one year so that he could study biomedical engineering in Israel. GW said yes.

"It was so refreshing," Portnoy recalls. "I knew by the end of that year that I wasn't going to be a traditional physician."

When Portnoy returned to the United States, he settled into the GW environment but took another yearlong break, this time to earn a master's degree in bioengineering at the University of Pennsylvania. "I loved it so much," he says.

As both an M.D. and an engineer, Portnoy took what he describes as a "unique career path." He spent eight years with the U.S. Food and Drug Administration (FDA) before turning to consulting with Biologics Consulting Group; his area is medical device regulation for cardiology-specific instruments. With his extensive clinical and FDA-based regulatory experience, Portnoy became an appealing candidate for the missions that would take him overseas. That story begins about two decades ago.

Back in the 1990s, according to Matthew Hein, international trade specialist for the U.S. Department of



Commerce's International Trade Administration (ITA), the European Union, Canada, Australia, Japan, and the United States formed the Global Harmonization Task Force on Medical Devices (GHTF), which created guidance documents for medical device regulatory regimes. Southeast Asia, lacking established regimes, became a region of great interest. As a result, the Association of Southeast Asian Nations began to implement its systems using both the GHTF documents and guidance from international regulators – including FDA alumnus Portnoy.

"It's a perfect partnership between people like me, an FDA alum, and what the Department of Commerce and the host nations are looking for," Portnoy says.

He visited Singapore separately in 2013 to consult about his experience with FDA and then joined the ITA initiative. In 2014 and 2015, he went to Malaysia and Vietnam, respectively, to present at ITA-organized workshops with other industry trainers. In Vietnam, Portnoy spoke about clinical evidence, although the learning and valuable interactions, he says, went both ways.

"I think the best part is spending time with my peer group," Portnoy says. "People who I didn't know before that I really love to talk shop with, talk professional, talk families, talk about what companies they've worked at before. That's number one. Number two, I am learning. I am learning new things all the time, which is great for me."

Portnoy intends to return to Southeast Asia, where he's enthusiastic about the regulatory regime developments. "It's a win-win-win, no matter how you look at it," Portnoy says. "I just love it from start to finish." ■

Leading the Pack

Denice Cora-Bramble, M.D., M.B.A., B.S. '76, FAAP, was named executive vice president and chief medical officer for ambulatory and community health service and senior vice president for the Goldberg Center for Community Pediatric Health at Children's National Health System. In her new role, Cora-Bramble leads all the regional ambulatory clinical operations; oversees a \$113 million budget; and guides physicians, nurses, and administrative staff members. She also heads the physician business enterprise at Children's National, as well as the strategic alliance and vaccine group purchasing contracts, among other responsibilities, with the Children's National Health Network, a provider group of more than 1,400 community-based pediatricians.

Cora-Bramble, a professor of pediatrics at the GW School of Medicine and Health Sciences, has held leadership roles at both GW and the U.S. Department of Health and Human Services. She is a diplomate of the American Board of Pediatrics, and in 2007, she received the highest national honor in community pediatric education, the Academic Pediatric Association and the American Academy of Pediatrics' National Pediatric Community Teaching Award.

1950s

Adolphe C. Kiczales, M.D. '55, A.A. '49, recently retired after 55 years practicing psychiatry. He and his wife, Barbara, live in West Virginia.

1960s

Vincent T. DeVita Jr., M.D. '61, Hon. '84, co-wrote *The Death of Cancer* (Sarah Crichton Books, 2015) with his daughter, Elizabeth DeVita-Raeburn. The former director of the National Cancer Institute, former physician-in-chief at Memorial Sloan Kettering, director of the Yale Cancer Center, former president of the American Cancer Society, and developer of the first successful chemotherapy treatment for Hodgkin's lymphoma shares a first-person account of the continued fight against cancer.

Seymour Gendelman, M.D. '64, who has directed the Mount Sinai neurology residency program for the past 15 years, was named Professor Emeritus, Department of Neurology, Mount Sinai Medical Center in New York City upon his retirement on Jan. 1, 2015. Gendelman is a lifetime member of the World Federation of Hemophilia. He has written many papers relating to the neurologic complications of hemophilia. In his free time, Gendelman trained for and ran the New York City Marathon.



"As I enjoy retirement, I continue to reflect on GW - the place where it all started. Through my estate planning, I'm doing my part to ensure that the dream I lived can be realized by others in the future." - George Ellis, MD '56

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Dr. Ellis is supporting the GW School of Medicine and Health Sciences with a gift of \$100,000 through his IRA. His estate will receive a significant tax deduction and GW will receive the designated portion of his IRA tax-free.

1970s

Culley Carson III, M.D. '71, FACS, Rhodes Distinguished Professor of Urology and former chief of urology at the University of North Carolina at Chapel Hill, received the 2014 St. Paul's Medal from the British Association of Urologic Surgeons. Carson also received the 2015 Massachusetts Medical Society Men's Health Award during the society's 13th Annual Symposium on Men's Health.

Dennis Michael Dimitri, M.D. '79, vice chair and clinical associate professor of family medicine and community health, University of Massachusetts Memorial Medical Center, was elected president of the Massachusetts Medical Society.

1980s

Lisa Murray, M.D. '86, RESD '87, was promoted to medical director at the student health center at Towson University in Maryland. Previously, she served as physician and medical staff coordinator for the 22,000-student public university.

1990s

Nicole Delorio, M.D. '96, RESD '00, was recently promoted to professor of emergency medicine and assistant dean of student affairs for the Oregon Health and Science University School of Medicine. Delorio, who also serves as director of medical student education in the Department of Emergency Medicine, will serve as a member of the undergraduate medical education leadership team and will be integral to supporting all students in the M.D. program.

Leesa M. Galatz, M.D. '93, RESD '04, an expert in surgery for traumatic and degenerative disorders of the shoulder and elbow, was selected to serve as the system chair of the Department of Orthopaedics at the Icahn School of Medicine at Mount Sinai.

Dennis Rivenburgh, PA-C '97, was named program director of the Anne Arundel Community College/University of Maryland-Baltimore Physician Assistant Program.

2000s

Lindsay Marsh Warren, M.D. '02, RESD '06, B.A. '98, received the GW Black Alumni Association's 2015 IMPACT Award on Sept. 26. The honor, entering its 10th year, is the highest form of recognition bestowed on distinguished black alumni at the university.

Nihar Patel, M.D., RESD '08, a hematology and oncology specialist, recently joined the medical staff at Willis-Knighton Cancer Center and Hematology/Oncology Associates. Patel completed a residency and fellowship in medical oncology and hematology at SMHS.

IN MEMORIAM



Floyd D. Loop, M.D. '62, RESD '68, a world-renowned heart surgeon, former chair and CEO of the Cleveland Clinic, passed away in June 2015 at the age of 78. Loop, whose initiation into medicine traced back to his father's practice in rural Indiana, graduated from Purdue University in 1958 and

GW in 1962. He served in the United States Air Force before training in cardiothoracic surgery at the Cleveland Clinic on the advice of Brian Blades, M.D., a former Lewis B. Saltz Chair of Surgery at GW. "That was a defining moment," Loop told *Medicine + Health* in 2013 of his decision to participate in the clinic's cardiac program. There, Loop performed thousands of heart surgeries and assembled a team of thoracic and cardiovascular surgeons, who elevated the clinic's reputation and helped pioneer surgical techniques and innovations.

After accepting a staff position in 1970, Loop became chair of cardiothoracic surgery at the Cleveland Clinic in 1975. During his tenure, he crafted the clinic into a profitable top hospital for heart surgery and expanded its footprint, constructing ambulatory facilities across the state and an additional medical center in Florida. Loop was responsible for improving preoperative techniques, arterial grafting, and valve repair, and he helped launch a computerized registry of cardiac surgery results.

Loop, who retired from surgery in 1999, received numerous awards and honors, including the American College of Cardiology Cummings Humanitarian Award, the American Heart Association Citation for International Service, and the Cleveland Clinic Lerner Humanitarian Award.

Associate Clinical Professor Emeritus of Medicine Warren

Daniel Brill, M.D., passed away Sept. 14, 2015, at age 94. A native Washingtonian and graduate of Central High School and the University of Maryland, where he earned his Bachelor of Science and Doctor of Medicine degrees in 1941 and 1943 respectively, Brill practiced internal medicine in Washington, D.C. for 45 years. He served as a professor of medicine at GW's School of Medicine and Health Sciences for more than 30 years, and after his retirement he continued to guide GW M.D. program students as a volunteer, teaching patient history and physical examination. He was a past president of the D.C. Medical Society, a member of the Jacobi Medical Society, and a fellow of the American College of Physicians. Brill is survived by his wife of 70 years, Bess, and their three children, eight grandchildren, and two great-grandchildren.

IN MEMORIAM



Judson G. Randolph, M.D., renowned GW School of Medicine and Health Sciences (SMHS) professor and nationally recognized leader in pediatric surgery, passed away on May 17, 2015, in Nashville, Tennessee, at the age of 87. Randolph was born July 9, 1927, in Macon, Georgia, and

grew up in Nashville. After serving in the Navy from 1945 to 1946, Randolph returned to his hometown to attend Vanderbilt University; he graduated from the school in 1950 and earned his medical degree from Vanderbilt's medical school in 1953.

Before joining the GW faculty as a professor of surgery and pediatrics in 1963, he trained in surgery at Massachusetts General Hospital and Boston Children's Hospital. He was also a faculty member at Harvard Medical

School. The year he arrived at GW, Randolph started his 25-year tenure as surgeon-in-chief at what is now Children's National Health System (Children's National).

"Dr. Randolph was one of the giants of American surgery," said Anton Sidawy, M.D., M.P.H., Lewis B. Saltz Chair of the Department of Surgery and professor of surgery at SMHS. "He trained over 40 fellows in pediatric surgery, many of whom assumed leadership positions in prestigious institutions around the country. In addition, he introduced hundreds of surgical residents to pediatric surgery and inspired them to pursue academic careers of their own; I was one of those residents. He was a spectacular surgeon, a dedicated mentor, and a passionate leader who always put his patients first. He will certainly be missed by his friends, colleagues, and trainees."

Among his many accomplishments, Randolph was a former chair of the surgical section of the American Academy of Pediatrics, president of the American Pediatric Surgical Association, and founder of the American Board of Surgery's pediatric committee. Following his retirement from Children's National, the Judson G. Randolph Fellowship in Pediatric Surgery was established in his honor.

Ozgur Ekmekci, Ed.D., M.B.A., faculty member in GW's School of Medicine and Health Sciences Department of Clinical Research and Leadership since 2007, passed away Sept. 19, 2015, following a heart attack.

Ekmekci, an associate professor of clinical research and leadership, served as the interim chair of the department from 2013 to 2015. Under his leadership, the department grew to offer nearly a dozen programs in addition to many military contract specialty programs. He served as the program director for the Health Care Quality Master's Degree Program from 2007 to 2013, where he provided strategic leadership in an area of significant growth.

During his time as a leader in the health sciences, Ekmekci continued to conduct research in and teach graduate-level courses in leadership, organizational change, health information technology, health care quality,

learning evaluation, and research methods. His research interests centered on interprofessional education (IPE), organizational identification, professional identity, and agent-based modeling. Ekmekci had recently completed a yearlong study to develop a method to evaluate learning and performance in IPE teams. The project built upon an earlier study on IPE, published in 2013 in the Journal of the Allied Health Professions, that showed a "significant increase in teamwork and leadership" after executive coaching and simulation.

Senior Associate Dean for Health Sciences Joe Bocchino, Ed.D., M.B.A., described Ekmekci as a "remarkable person, a wonderful friend, an outstanding teacher, and a terrific member of the faculty. As a testament to the high regard that his colleagues and students had for him, Ekmekci was awarded the university's Bender Teaching Award in 2011."

William V. Applegate, M.D. '57

Frank Thomas Barranco Sr., M.D. '56

Jeanne Barinott Bradley, M.D. '51, RESD '52

John Grover Bradley, M.D. '51, RESD '52

Milton H. Brinton, M.D. '77

Richard Carlisle, M.D. '65

Sheridan L. Daines, M.D. '65

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Pamela F. Farrington, M.D., RESD '86

Arland K. Faust, M.D. '59

C. Richard Gill, M.D. '55

Ebrahim Navid, M.D., RESD '67

Joseph E. Rawlings, M.D. '53, B.A. '50

Jerome V. Rose, M.D. '45

Jimmy Lynn Stubblefield, PA '99

IN DEVELOPMENT

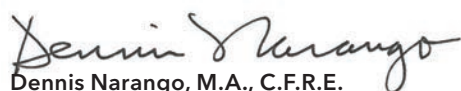


Because academic medicine makes a profound impact on the quality of life and the state of knowledge, it historically has attracted significant philanthropic gifts. That continues today as medical schools and teaching hospitals in the United States have received newsworthy seven- and eight-figure gifts in 2015. There have even been incredible nine-figure commitments, for instance, to the Memorial Sloan Kettering Cancer Center.

Often these gifts come from the hands of grateful patients or their families, from regional business leaders or alumni. Always the gifts come because of the demonstrable excellence of the results, innovation, and vision embodied in the recipient. Great programs, great ideas, and great people attract great philanthropy.

Cancer, neuroscience, and transplantation, three of GW's rapidly expanding areas of clinical and research innovation, are highlighted in this issue of *Medicine + Health*. Will one of them inspire a visionary benefactor to emerge and make a magnificent gift to the School of Medicine and Health Sciences? Now is the opportune time, because our physicians, scientists, and professional staff are ready to make history as never before.

Sincerely,



Dennis Narango, M.A., C.F.R.E.

Associate Dean, SMHS and Associate Vice President for GW Medicine Development and Alumni Relations

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Richard G. Popiel, M.D. '81, RESD '83, M.B.A., B.S. '75

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Rakesh C. Sahni, M.D.

Cardiology; Maryland Cardiology Associates

Mark W. Surrey, M.D. '72, FACOG, FACS

OB/GYN-Fertility; Professor and Clinical Director, Reproductive Surgery, University of California-Los Angeles; Co-Founder and Medical Director, Southern California Reproductive Center

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Emergency Medicine; Founder, Emergency Physicians Medical Group, PC

The Dean's Council advises the dean of the School of Medicine and Health Sciences on strategic priorities and important issues for the school, and provides generous support and advocacy.

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A COMPREHENSIVE CANCER VISIONARY

Renowned lymphoma researcher Eduardo Sotomayor, M.D., Ph.D., came to GW's School of Medicine and Health Sciences for one purpose: to build a premier cancer center that excels in research, clinical investigations, prevention/control policy, and patient education and outreach. Read more on page 14.